Conceptualizing Change in the Portuguese Footwear Industry: Regional Voices and Cognitive Spaces of Agency

Richard Joseph Nunes

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Declaration of Authenticity

I, Richard Joseph Nunes confirm that the work presented in this dissertation is my own. Where information has been derived from other sources, I confirm that this has been indicated in this dissertation.

Abstract

Conceptualizing 'Change' in the Portuguese Footwear Industry: Regional Voices and Cognitive Spaces of Agency

Expanding national services sectors and global competition aggravate current and perceived future market pressures on traditional manufacturing industries. These perceptions of change have provoked a growing intensification of geo-political discourses on technological innovation and 'learning', and calls for competency in design among other professional skills. However, these political discourses on innovation and learning have paralleled public concerns with the apparent 'growth pains' from factory closures and subsequent increases in unemployment, and its debilitating social and economic implications for local and regional development.

In this respect the following investigation sets out to conceptualize change through the complementary and differing perceptions of industry and regional actors' experiences or narratives, linking these perceptions to their structure-determined spheres of agent-environment interactivity. It aims to determine whether agents' differing perceptions of industry transformation can have a role in the legitimization of their interests in, and in sustaining their organizational influence over the process of industry-regional transformation.

It argues that industry and regional agent perceptions are among the cognitive aspects of agent-environment interactivity that permeate agency. It stresses agents' ability to reason and manipulate their work environments to preserve their self-regulating interests in, and task representative influence over the multi-jurisdictional space of industry-regional transformation. The contributions of this investigation suggest that agents' varied perceptions of industry and regional change inform or compete for influence over the redirection of regional, industry and business strategies. This claim offers a greater appreciation for the reflexive and complex institutional dimensions of industry planning and development, and the political responsibility to socially just forms of regional development. It positions the outcomes of this investigation at the nexus of intensifying geo-political discourses on the efficiency and equity of territorial development in Europe.

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Richard J. Nunes
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Abbreviations

APC	Autoridade da Concorrência de Portugal
ADI	Agência de Inovação
ADRAV	Agência de Desenvolvimento Regional do Vale do Ave
ADReDV	Agência de Desenvolvimento Regional de Entre Douro e Vouga
AEP	Associação Empresarial de Portugal
AIM	Associação Industrial do Minho
AIP	Associação Industrial de Portugal
AGEP	Associação para o Empreendorismo em Portugal
APAD	Agência Portuguesa de Apoio ao Desenvolvimento
API	Agência Portuguesa para o Investimento
APPICAPS	Associação Portuguesa dos Industrias de Calcado, Components, Artigos em Pele e Seus Sucedâneos
AMAVE	Associação de Municípios do Vale do Ave
AMVS	Associação de Municípios do Vale de Sousa
BIC	Business & Innovation Centres
CCDR-N	Comissão de Coordenação e Desenvolvimento Regional do Norte
CCI	Câmara de Comercio e Indústria
CEN	Conselho Empresarial do Norte
CEA	Conselho Estratégico Associatívo
CEC	European Confederation of the Footwear Industry
CEICA	Conselho Estratégico da Industrias da Cultura e do Artesanato
CES	Conselho Economico e Social
CFPIC	Centro de Formação Profissional da Indústria do Calçado
CGTP	Confederação Geral dos Trabalhadores Portugueses
CIENCIA	Criacao de Infraestruturas Nacionais de Ciencia, Investigacao e Desenvolvimento (1989-93)
CIP	Confederação de Indústria Portuguesa
COLTRAIN	Collaborative Training Initiative for the Footwear Industry (Eurocad)
CPD	Centro Português de Design
CTCP	Centro Tecnológico do Calçado de Portugal
DEMTEC	Sistema de Incentivos à Realização de Projectos-Piloto Relativos a Produtos, Processos e Sistemas Tecnologicamente Inovadores
DES+GN mais	Plano para o Design nos Sectores Produtivos
DESIGN IMAGING	Vocational Training Pilot to Improve Coordination, Dissemination and Implementation of Results of Project in Design Sector
DGDR	Direcção-Geral do Desenvolvimento Regional
DIPI	Direcção de Informação e Promoção da Inovação

DÍNAMO	Programa de Dinamização dos sectores Têxtil, Vestuário e do Calçado
DRE	Direccao-Geral da Empresa
EBN	European BIC Network
EPF	Ensino Profissional de Felgueiras, Ltd.
ESBA	European Small Business Alliance
ETUF: TCL	European Trade Union Federation: Textiles, Clothing and Leather
EURIS	European Union of Research Institutes for Shoes
FACAP	Fábrica do Calçado
FATEC	Fábrica de Alta Tecnologia para Calçado
FCT	Fundação Ciência e Tecnologia
FESETE	Federação dos Sindicatos dos Trabalhadores Têxteis, Lanifícios, Vestuário, Calçado e Peles de Portugal
FOOTPRINT	Footwear Industry Project on Optimising Information Technology (Eurocad)
FOOTWORK	Transfer of Vocational Training Measures in Design (Eurocad)
GAE	Gabinete de Apoio ao Empresário
GAPI	Gabinete de Apoio a Propriedade Industrial
GPF	Gabinete de Coordenacao de Parcerias e Formacao Profissional
IAPMEI	Instituto de Apoio as Pequenas e medias Empresas
ICEP	Instituto das Empresas para os Mercados Externos
IDEA	Apoio à Investigação e Desenvolvimento Empresarial Aplicado
IEFP	Instituto do Emprego e Formação Profissional
INESC	Instituto de Engenharia de Sistemas e Computadores
INETI	Instituto Nacional de Eng., Tecnologia e Inovacao, IP
INPI	Instituto Nacional de Propriedade Industrial
INSME	International Network for Small and Medium Enterprises
IPQ	Instituto Portugues de Qualidade
IQF	Instituto de Qualidade e Formacao
JNICT	Junta Nacional de Investigacao Ciencia e Tecnologia
MCTES	Ministerio de Ciencia, Tecnologia e Ensino Superior
ME	Ministerio de Economia
MEI	Ministerio de Energia e Industria
MEPAT	Ministerio Equipamento, Planeamento e da Administracao do Territorio (MEPAT) (1995-1999 - XIII Governo)
MIE	Minsterio da Industria e Energia (1987-1994 - XI and XII Governos)
MTSS	Ministerio do Trabalho e Solidariedade Social
NEST	Novas Empresas de Suporte Tecnológico
NITEC	Sistema de Incentivos à Criação de Núcleos de Investigação e Desenvolvimento Tecnológico no Sector Empresarial

PAEDIR	Programa de Apoio Específico de Deslocalização Industrial Regional (1998-19999)
PCM	Presidencia do Conselho de Ministros
PEDIP	Programa Estrategico de Dinamizacao e Modernizacao da Industria Portuguesa (1988-1999)
PRASD	Programa de Recuperação de Áreas sub-Desenvolvidas
POCI	Programa Operacional Ciência e Inovação
POCTI	Programa Operacional Ciência, Tecnologia e Inovação
POS_C	Programa Operacional Sociedade do Conhecimento
POSI	Programa Operacional Sociedade da Informação
POEFDS	Programa Operacional do Emprego, Formação e Desenvolvimento Social
PPDR	Promocao do Potential do Desenvolvimento Regional
PRIME	Programa de Incentivos à Modernização da Economia
PROAVE	Programa de Desenvolvimento Integrado do Vale do Ave
QUICKFOOT	Quick Response for Competitiveness in Footwear (Eurocad)
RECET	Associação dos Centros Tecnológicos de Portugal
RIME	Regime de Incentivos as Microempresas
SHOEMAT	Programa Integrado da Concepção, Produção e Utilização de Novos Materiais para Calçado
SIED	Sistema de Incentivos à Economia Digital
SIME	Sistema de Incentivos à Modernização Empresarial
SIPIE	Sistema de Incentivos a Pequenas Iniciativas Empresariais
SIR	Sistema de Incentivos de Base Regional
SIUPI	Sistema de Incentivos à Utilização da Propriedade Industrial
SMIE	Support Measures and Initiative for Enterprises
SOL DO AVE	Associacao para o Desenvolvimento Integrado do Vale do Ave
STRIDE	Development das Capacidades de I&D das Regioes menos Favorecidas da Europa
TECHMODA	Centro de Ecelência da Moda
UMIC	Unidade Missao Inovacao e conhecimento

[A]ll innovation presupposes change, but not all change presupposes innovation

(J-A Johannessen, B. Olsen and G. T. Lumpkin 'Innovation as newness: what is new, how new and new to whom?' *European Journal of Innovation Management*, 2001, 4(1): 22)

[U]nless one can identify salient cultural variation with the unit and time frame under consideration, simply asserting that "culture matters" is rarely a legitimate basis for criticism of an economic explanation.

(P. J. DiMaggio 'Culture and Economy'. In N. J. Smelser and R. Swedberg (eds) *The Handbook of Economic Sociology*, 1994: 28)

Chapter 1 Introduction

1.1 INTRODUCTION

Expanding national services sectors and global competition aggravate the current and perceived environment of future market pressures on traditional manufacturing industries. These multi-actor perceptions and related agent-environment interactivity can be associated with the industry-regional transformation outcomes associated with product and organizational innovation, as well as the 'growth pains' linked to factory closures and subsequent increases in unemployment. Actors' perceptions of these market pressures can be linked to their institutional ability to mobilize finite resources such as State and European structural funding. This can consist of efforts to increase competencies in industrial product design among other professional skills. For the purposes of this investigation, the above environment of 'change' consists of three dimensions: resources accessibility or the ability to mobilize finite resources, the selective reasoning of industry-regional outcomes and its meaning in relation to practice, and agent-environment interactivity (elaborated below, cf. Section 1.3 for analytical framework). These dimensions of change become particularly relevant in a consideration of the potential for multiple co-placed stakeholder systems in the firm. In other words the firm can be associated with competing stakeholder interests as both an agent of competition and change, as well as a delivery platform for multiple competing programmes for regional development. Such examples may include industry-regional training whereby efforts to identify innovation competency skills may compete with training programmes aimed at wider transferable skills.

The above potential for co-present systems of agent interaction offers a unique opportunity for examining the links between differing actors' knowledge, perceptions and motivations, and the juridico-institutional structures within which they practice. That is, co-present systems of interaction can begin to elucidate the links between differing agents' perceptions of industry-regional change, and the practice of their knowledge of the causes and effects of industry transformation. This knowledge can include agents' awareness of the finite resources available to them for the adaptation to these transformation outcomes. This recognition has motivated the following research questions:

> How is a social phenomenon such as change conceived by different agents, who may be driven or constrained by individual and organizational world views, or working within functionally differentiated spheres of interactivity yet endowed with different and often unequal powers and resources?
>
> What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation?

Prompted by these questions the following investigation seeks to articulate actors' meanings, activities and motivations as it relates to their perceptions of industry-regional change ('lifeworld'), and its reciprocal relations with culture, institutions, power, and reproduced practices and social relations ('systems'). It sets out to conceptualize change through the complementary and differing perceptions of industry and regional actors' experiences or narratives, linking these perceptions or individual-organizational cognitive frames to their structure-determined spheres of agent-environment interactivity. These cognitive frames particularly consist of the 'meaning' that agents attribute to past experiences, external events, and competing and joint actions.

With a distinct mixed-method approach to this complex institutional context of industry-regional transformation (elaborated below), the following investigation charts the historico-institutional and cognitive dimensions of agents' interests in the Portuguese footwear industry and Norte region, and their influence over the mobilization of finite resources. This industry-regional case study is particularly relevant to the above problem focus because of the parallels between its historical transformation into a globalized industry sector and its concomitant effects on regional development, and its institutional links to the evolution of Portuguese science, technology and innovation policy. More importantly, however, its effects on regional development outcomes and its institutional links to parallel policy developments have involved both economic and social agents. These actors have included labour unions, State-led regional training organizations, business elites, as well as innovation-promoting institutional arrangements between the State, universities and industry organizations. As a consequence, the following investigation extends its analysis of actor narratives of industry-regional change to a number of individuals, events and organizations. This is an arguably complex research aim, considering the multi-level, cross-scalar realm of the multi-jurisdictional environments within which these agents operate. Though, any consideration of the abovementioned potential for co-placed systems of stakeholder interests within the firm must broaden the spectrum of actors.

Following this line of reasoning, organizations are taken to be 'social units' within institutionalized geographies *of* practice, and in turn *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations. In other words, the contributions of this investigation emphasize that agent behaviour is 'bounded' not only by the institutional frameworks that delimit and enable action through social, informational and financial resources, but also by the individual and organizational interests, history and geography (cf. Douglas 1986 who argues thinking requires institutions). It argues that agent perceptions are among the cognitive aspects of agent-environment interactivity that permeate agency. This view additionally follows a line of thinking that argues agency is 'intimately bound up with, and to some extent subordinate to the cognitive' (Powell and DiMaggio 1991: 15). It maintains that agents' varied perceptions of industry-regional change or change narratives can inform or compete for influence over the redirection of

regional, industry and business strategies. Altogether then agents' self and organizational interests in, and their influence over industry-regional transformation are mutually constitutive.

The remainder of this chapter is organized in three sections. Section 1.2 provides a brief overview of the case study, including a brief overview of the methodological approach and rationale. Section 1.3 discusses the analytical framework for this investigation, followed by concluding remarks and an overview of the dissertation structure in a final section.

1.2 A CASE STUDY. INNOVATION AND CHANGE IN THE PORTUGUESE FOOTWEAR INDUSTRY

Nationally, labour-intensive industries in Portugal account for nearly one-third of all exports. A one-third share of these exports come from textiles, clothing and footwear (hereafter TCF) industries alone. The Norte region retains a 42-0 percent share of all national exports. This regional scenario has been compounded by two factors: 81-0 percent of the Norte region's exports have come from a geographic area roughly one-third the overall size of the region, 47-6 percent of which has come from labour-intensive industry exports. This has delivered a testing blow on the region's social and economic welfare as industries such as footwear production restructure to accommodate the increasing weight of international competition.

The geographical focus of this investigation is on the sub-regions of Tâmega, Cávado, Entre Douro e Vouga (EDV) and Ave where TCF industries in the Norte region are predominantly located. The latter two regions of EDV and Ave together constitute 80-5 percent of Norte's 42-0 percent share of all national exports. Though, this concentration of economic activity currently comes at cost. TCF exports from Ave alone constitute 67-5 percent of all regional exports. What is more, this mono-industrial situation in the Ave sub-region is mirrored in the more problematic scenarios of the Cávado and Tâmega sub-regions where TCF products account for a 69-7 / 84-8 percent share of all regional exports, respectively. In response to the socio-economic vulnerability of these regions, nearly twenty years of State and European structural funding has been mobilized throughout the Portuguese footwear industry to the sum of 72M€ between 1989 and 2006 (Chapter 5).

The above geographical scenario offers a particularly heightened socio-political and economic context for an industry-regional study. Industry studies and initiatives in this wider context typically credit a firm's ability to adapt to new technologies, a capacity for innovation-oriented institutional collaboration, and an effective use of financial incentives with the successful processes of industrial transformation and increased regional competitiveness. However, the achievements of technological and regional upgrading cannot constitute the extent of an industry's transformation and its relationship to regional change. It would directly associate innovation and change for an eschewed characterization of the industry and region.

Instead, the interrelatedness of both innovation impetus and transformation-associated change in the industry must be addressed through a study of the industry initiatives associated with its transformation—informed through national policies as well as through industry and regional strategies.

The Portuguese footwear industry is an exemplary case of industrial transformation in this regard. The historical development of the industry, the concomitant regional transformation of the Norte region, and its institutional links to parallel policy developments is far from uniform. An historical appreciation of the industry's integration of micro family-owned business and subsistence farming into informal household economic conditions, recurrent rounds of economic depression and boom, government instability, late industrialization and domestic market liberalization, foreign direct investment and divestment, subcontracting and internationalization of production, 'Europeanization' of industrial policy, and steep technological learning curves and an ever growing appreciation for the institutionalization of innovative activity have all contributed to differing rates of development within the industry. Any characterization of the Portuguese footwear industry under one model of development would be erroneous at best.

A study of the multi-jurisdictional space of industry-regional transformation must ensure that a conceptualization of change in the Portuguese footwear industry has been considerate of intersecting and/or parallel processes of historico-political and regional change. Thus this investigation incidentally has sought to *avoid* confusing a characterization of change with that of innovation-led industry transformation (Chapter 2). This has been achieved through a dual consideration of innovation-enhancing institutional formation on the one hand and an account of history and industry-regional transformation on the other. In light of this consideration, the following investigation identifies two distinct facets of the political-institutional environments through which Portuguese footwear industry transformation has been manifest (Chapter 5). The first of these facets examines the meandering pursuit of science and technology / innovation policy (hereafter S&T/I) throughout historical periods of political destabilization and the reorganization of State powers. The second facet considers the parallel albeit inter-related (re)institutionalization and restructuring of the Portuguese footwear industry. This has been evident in the multiple effects of divestment, of internationalization of businesses and markets, and of employment shifts or the increase of part-time work and contractual flexibility not to mention newly adopted technologies and their structural effects on production processes.

Together both facets provide an insight into the political-institutional context of multi-agent reasoning of change. Moreover, this context offers a handle on the views through which business and public agency knowledge of change has been produced and translated into everyday practice; that is, the manner and degree to which change has been identified and managed by various actors as a contextualized process of transformation across time and space. This casts light on the direct and indirect links between agents' 'operational

jurisdictions' *and* its intersection or co-placement with other functionally differentiated spheres of interest in the industry or firm (see Chapters 3 and 6 for discussion). Thus all things considered, the problem of recounting change is to examine transformation in a way that 'neither reduces [social] interaction to the exclusive and mechanical effects of [political-institutional] structure nor reduces structure to the accomplishments of actors, or the outcome of their interactions' (Thrift, 1983).

1.2.1 An Adaptive Theory Approach. A Critical Realist Perspective on Industry-Regional Transformation

In a context where public *and* private institutions increasingly play complementary roles in the networked and distributed production and use of 'public knowledge' (cf. Geuna *et al.* 2003 inn funding/governance of science/technology), and the pressures on public trust from growing uncertainty (Bijlsma-Frankem and Woolthuis 2005) become increasingly more evident, efforts to integrate social considerations with competitiveness intensify with tensions over the legitimacy and accountability of industrial and innovation policy, as well as the 'credibility' of its varied actors and organizations (Lundvall 1992, Rodrigues 2004). In this regard, the following investigation of how agents reason and manipulate their work environments to preserve their self-regulating interests in, and their task representative influence over the multi-jurisdictional space of industry-regional transformation is arguably a credible academic exercise (cf. Sunley 2008).

In fact recent academic discussions have taken to the particulars, or the micro scale of agent interaction and its transformation / (de-/re-)institutionalization in space and time, bringing to light such long held debates over uneven development as well as knowledge and funding resource distribution and accessibility issues (cf. Perrons 2001 on a 'holistic framework', see also Pike *et al.* 2007, and Pike *et al.* 2009, Mackinnon *et al.* 2009 on a political economy of 'evolution' in economic geography). Though, despite an attention to multiple stakeholder interests and political aspirations among economic/non-economic actors and their differing perceptions of socioeconomic circumstances – notwithstanding the limited or unevenly distributed powers among them, this and other academic debates (cf. Bathelt and Gluckler 2003, Boggs and Rantisi 2003, Yeung 2005b) may prove to be more of a methodological challenge than a conceptual one (cf. Hodgson 2009, Sunley 2008).

Methodologically, the above aim of conceptualizing change in the Portuguese footwear industry follows an 'adaptive theory' approach (Layder 1998; cf. Chapter 4 for full discussion). This approach has been identified as the most appropriate orientation for administering this research investigation because of its special emphasis on 'lifeworld'-systems interlocks and its enabling of theory generation alongside ongoing empirical research. It facilitates a coherent study and subsequent conceptualization of change that is able to

distinguish between the impacts of industry-regional transformation outcomes on individuals or organizations, and the knowledge and structures by which these actors are able influence such outcomes through the mobilization of finite resources.

On an ontological level the pursuit of this distinction has been underpinned by a 'critical realist' philosophy (Archer *et al.* 1998, Lopez and Potter 2001) that maintains there is a 'world' or 'reality' independent ('intransitive') of our understanding and experience of it ('transitive'). And thus for the purposes of this investigation, industry-regional transformation is an 'intransitive' 'reality' independent of the juridico-institutional spaces within which agents' act out their interests in, or their influence over responses to perceived transformation outcomes ('transitive'). This ontological reasoning has been a necessary preconception of this investigation because it has helped structure the study of complex 'lifeworld'-system interlocks of behavioural and institutional dimensions of agent interactivity (cf. Chapter 4 for full discussion).

Lastly, on an epistemological level this ontological standpoint has helped address the central objective of this investigation, which has aimed to elucidate the links between agents' perceptions change and the practice of their knowledge or experience of industry-regional transformation. This has involved a consideration of different industry and regional knowledge forms and processes that have underpinned interconnections between agents' predispositions toward change (behavioural dimension) and the social settings (institutional dimension) in which they are played or put into practice.

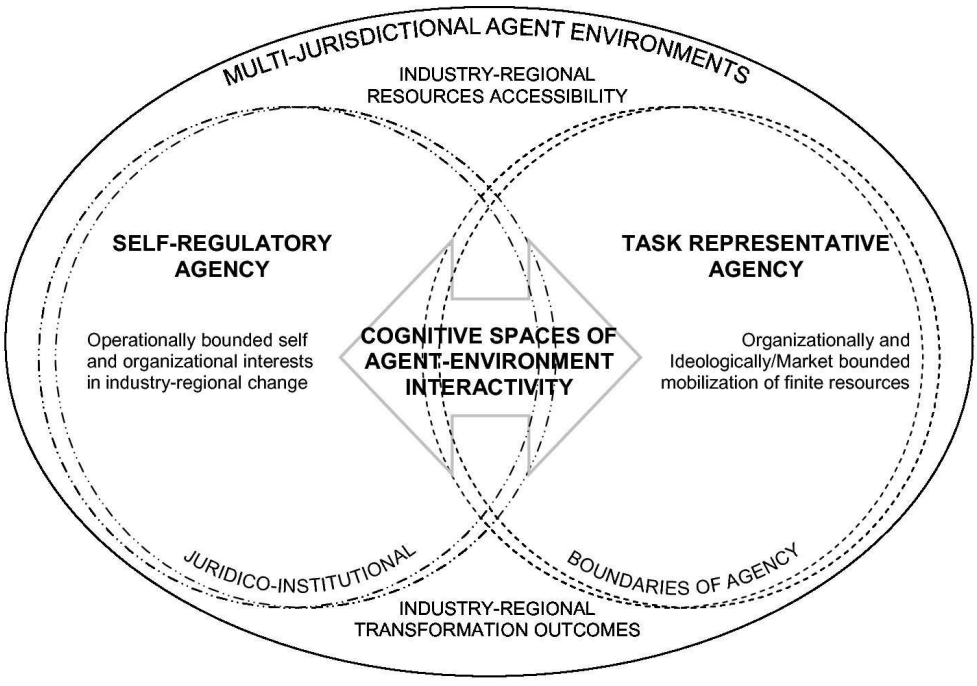
The remainder of this chapter outlines three distinct components of the analytical framework for this investigation, before closing with concluding remarks and an outline of all dissertation chapters in the fourth and final section of this chapter. The following framework serves as a structuring device for remaining chapters, before it is revisited in Chapter 8.

1.3 ANALYTICAL FRAMEWORK. CONCEPTUALIZING CHANGE IN THE PORTUGUESE FOOTWEAR INDUSTRY

The following section discusses the analytical framework for this investigation (Figure 1.1). It outlines the three abovementioned dimensions of change, which coincide with distinct elements of the analytical framework for this investigation. The introduction of these dimensions of change at the outset has enabled theoretical generation alongside empirical research throughout the investigation. These dimensions include resources accessibility or the ability to mobilize finite resources, the selective reasoning of industry-regional outcomes and its meaning in relation to practice, and agent-environment interactivity. The first two dimensions of change embody the multi-jurisdictional agent environments within which the cognitive spaces of agent-environment interactivity takes place. The third lies at the

intersection of two spheres of juridico-institutional boundaries of agency, bringing together all dimensions for a conceptualization of change. Each dimension coincides with one of the three following sub-sections. Section 1.3.1 brings together industry-regional 'resources accessibility' and 'transformation outcomes' to reflect on the territorial dilemma for old industrial regions. Section 1.3.2 then explores two 'juridico-institutional boundaries of agency'. The first constitutes *self-regulatory agency* or the operationally bounded self and organizational interests in industry-regional change. The second accounts for *task representative agency* or the organizationally and ideologically/market bounded mobilization of finite resources. The confluence of these two spheres of agency represents agents' perceptions of the causes and effects of industry-regional transformation outcomes, and the pursuit and mobilization of finite resources (contingently realized) in response to change - both on-going and desired. Section 1.3.3 opens the above discussion to wider theoretical considerations in the investigation. The analytical framework provides the basis for a conceptualization of change as well as a guide on subsequent chapter discussions. More importantly, its contribution to the outputs of this investigation enables a distinction between a socially desirable or shared way of ascribing meaning to socioeconomic circumstances, and those alternative norms or responses competing for legitimacy. The framework has enabled systematic analyses of respondent data (Chapter 6), the results of which have been successfully cross-examined through a cognitive-mapping exercise (Chapter 7). It is subsequently revisited in the final chapter of this dissertation, in which the theoretical product of this investigation is introduced and discussed.

Figure 1.1 Analytical Framework



Source: Author

1.3.1 Industry-Regional Transformation. Outcomes, Resources Accessibility and a Dialectics of Change

Rising unemployment and underemployment, increasing social and economic disparity and poor economic performance are all among the issues raised over the need to coordinate private sector demand with supply-side measures in the form of government spending. These issues often result in a debate over what mix of social and economic policies will ensure economic success and social wellbeing (Conceicão *et al.* 2003, Lundvall 1996, Lundvall 2002). In the context of regional innovation and 'joined-up' policy, an effort to re-evaluate traditional approaches suggests expanding the institutional base associated with technology and industrial policy:

> […] technology policy and industrial policy now have become more important also in relation to issues related to employment and income distribution and […] they have to be integrated, or at least coordinated, with policies relating to infrastructures, social justice and not least education and training. (Lundvall 1999)

Looking beyond the benefits of greater institutional efficiency within and between policy sectors, there is recognition of the socially embedded processes of 'learning' that underpin regional economic performance and renewal. Mirrored in this recognition are innovation systems approaches (Freeman and Lundvall 1988, cf. also Nelson 1993 and Chapter 2), which attempt to understand the complex interrelationships through which technological development and adaptation translate into economic performance.

But this implies a number of unresolved issues, the least of which is the dual goal of social cohesion that is aptly addressed by Oughton *et. al.* (2002) as the 'regional innovation paradox': as 'less-favoured regions' in a global economy require more innovative capacity in order to increase their competitive position, the more difficult it is for them to 'absorb' public funds for the promotion of innovation. Oughton *et. al.* (2002) have placed a dual emphasis on the regional inequalities that have been reinforced through S&T/I policy as more public resources are absorbed by wealthier regions, and on European industrial policy efforts that have aimed to reconcile this imbalance among 'less-favoured regions' (ibid: 2).

This territorial dilemma thus becomes an indisputably relevant concern for old industrial regions throughout Europe, which have had to undergo significant socioeconomic strain from industry restructuring and collapse. Though, for instance, many of these regions have been regenerated through the creation of new joint markets between existing industry sectors or 'recombinant' industry restructuring. This and other industry-regional activity arguably can be credited to the complex interplay of business climate, regional 'innovativeness', and industrial planning and foresight (e.g., targeted skills and joint capital investment, tax relief, brokered partnerships and infrastructure upgrades). What is more, these practices are evident in a combination of industry perspectives on product development and production processes, and consumer and market demands. They can reflect a multi-jurisdictional space of industry

transformation – of intersecting spheres of agent interactivity within which institutional arrangements can be 'rife with conflict, contradiction and ambiguity' (Powell *et. al.* 1991: 28). However, this reasoning must recognize the constraints that institutions impose on human agency, whilst acknowledging that they are simultaneously the products of human agency as regards agents' differing interests in, and self-regulating influence over the various processes of industry transformation (cf. Chapters 2 and 3 for full discussion)

Furthermore, these trends reinforce the need to better understand how industry and regional agents respond to change, notwithstanding the need to overcome the lack of policy coordination and integration, and the strong distributional implications that it can have for 'less-favoured regions'. To borrow from Lawton Smith *et. al.* (2003: 860): 'firms are simultaneously the agents of change and competition and the final point of delivery of programmes provided by other agents'. This observation by Lawton Smith *et. al.* reflects an attention to the primary sources of tension for policy-making processes between regional institutions, firms and entrepreneurs: 'public sector third parties', they further claim, 'have fixed operational jurisdictions (remit/area), while firms have more than one kind of need and [industry] sectors as a whole may not neatly fit either category' (ibid. 861).

In this regard the following investigation recognizes the potential for co-present systems of interaction within the space of industry transformation and regional development further. This consideration has motivated the task of conceptualizing change in the Portuguese footwear industry through complementary and differing perceptions of industry transformation by both industry and regional actors. That is, enabling a dialectical conceptualization of change, owing agents' experiences of the different institutional geographies of industry transformation to any number of individuals, events and organizations. The section below elaborates another dimension of the above analytical framework for this investigation. It further considers the meaning agents' attribute to their experience of change, and the links between these bounded perceptions and their self-regulatory interests in, and task representative influence over industry-regional transformation.

1.3.2 Juridico-Institutional Boundaries

For the purposes of this investigation, meaning is the 'actionable knowledge' (Argyris 1993) of agency, which is used to differentiate the actions of an agent from his environment (other worldviews or actions situated in shared circumstances). Put differently, 'knowledge' (data, ideas and argument) is the meaning appropriated to different observations communicated through face-to-face as well as technology-mediated interaction. In this regard, the following investigation has taken a particular interest in the accumulation of data and experiences over time, and the extent to which it may constitute different individual forms of knowledge (cf.

Haas 2004, Rydin 2007), or the extent to which agents' knowledge of industry-regional transformation is expressed through differing cognitive-frames - vying for legitimacy at varying degrees of persuasion.

This investigative focus on 'meaning' has aimed to unearth the tacit or unconscious layer of knowledge that informs agents' symbolic constructions of reality. The result has been an opportunity to explore links between the communications or storylines of the interviewees for this investigation, and the practice of their knowledge or experience of industry-regional transformation. Along the lines of the abovementioned research objective, the following investigation expands the conceptualization of a 'system as a set of interrelated components working toward a common objective' (Carlsson *et. al.* 2002: 234) – whereby the components are constitutive of the system and the system is constitutive of the relationships and attributes of its components. In other words, the following investigation advances the view that a social system and its related relationships and attributes are mutually constituted. These social systems may consist of an organization, or policy funding networks, industry training platforms or innovation governance arrangements. However, in so far as these systems are widely recognized as complex and open social constructs in time and space (as noted by Carlsson *et al.* above), this investigation advances the view that they are ultimately *functionally differentiated or operationally closed*. This has particular relevance for an investigation of differing stakeholder interests co-placed in an industry firm. The organization of the industry firm may be a contributing attribute of an 'innovation system' for instance, which includes industry training by other organizations within the innovation system. But other policy-related arrangements may be equally co-placed within the firm; this can include European regional funding or training arrangements delivered through other organizations outside the innovation system. The following investigation has been particularly geared toward identifying these juridico-institutional (structuring) boundaries of agency. It is not concerned with articulating the extents of any one system. Rather this investigation seeks to elucidate the complementarities and incompatibilities between differing regional agents and their respective operational jurisdictions. It examines agents' perceptions of industry-regional change and its links to the juridico-institutional structures within which they work. In this regard, the primary unit of analysis remains that of the organization, not an a priori system. In other words the following investigation adopts an organizational analysis that rejects the space of a system as an a priori social entity in favour of an internally fragmented and contingent space, which is shared with the differing codes, norms or programmes of other organizations (cf. Chapter 2).

This view has prompted a consideration of Niklas Luhmann's seminal work entitled *Social Systems* (1997, see also 1995). Luhmann's grand theory of society offers a useful albeit disputed handle (cf. Gren and Zierhofer 2003) on second order cybernetics or the alteration of cognitive-frames, for which the methodological concern with juridico-institutional boundaries of agency is a key issue for this investigation (cf. Sec. 1.2.2, Chapter 4). For Luhmann, modern

society is the one and only social system – ‘a unity for the totality of what is social’ (Luhmann 1995: 408), which is differentiated into a variety of functionally specialised ‘autopoietic’ (self-producing) sub-systems. Borrowing from Chilean neurobiologists Humberto Maturana and Francisco Varela of *The Tree of Knowledge* (1998[1987]), Luhmann takes the notion of autopoiesis to be a function of the cognate processes of human understanding (as constituted in cognitive-frames and communication). A key feature of Luhmann's adaptation of autopoiesis to social systems suggests that these systems are open yet ‘operationally closed’ or functionally differentiated in nature. In other words the internal processes (observations) of these agent systems are determined by their internal juridico-institutional structures, and not by their environment of external influences. The following investigation follows this line of reasoning to suggest that the agent-environment interactivity concerning the effects of 'transformation outcomes' and related issues of 'resources accessibility' is strategically used (observed or framed) by agents to legitimize and maintain the internal dynamics of their respective systems (Gren and Zierhofer 2003: 616). Again, these agent systems may constitute agents’ respective organization, or policy funding networks, industry training platforms or innovation governance arrangements (cf. Sec. 8.5 for policy implications). The above consideration of autopoietic systems-theory opens this investigation to the abovementioned potential for differing stakeholder interests co-placed in an industry firm. Moreover, it has immediate implications for the treatment of the ‘organization’ as a unit of analysis, which remains distinct from complementary institution-centred explanations (elaborated below, cf. also Chapter 3).

The section below elaborates the last dimension of the above analytical framework for this investigation. It brings an element of closure on the juridico-institutional links between differing agent perceptions of industry-regional transformation and practice. It identifies wider theoretical considerations in light of the potential for institutional reproduction and modification of agent perceptions through practice.

1.3.3 Cognitive Spaces of Agent-Environment Interactivity

The relevance of regional policy for LFRs reveals itself when policy-makers must reconcile competitiveness with social cohesion through the adaptation of competition or innovation policies. The vast literature in this area generally has been built on an overarching concept of ‘social capital’ as the necessary relational infrastructure for collective action diversification and policy integration, in a context much influenced by a dynamic of industrial change and a necessary balance between the creation and diffusion of ‘knowledge’ through ‘learning’.

This reflects the phenomenal growth of theoretical insights into ‘evolutionary’ economic development (Nelson and Winter 1982) and its institutional basis of ‘learning-by-interacting’-

oriented processes of production, distribution and exchange (Lundvall 1992, cf. also Sec. 3.3.1, and Cooke and Morgan 1998 on the 'associational economy', and Lundvall and Johnson 1994 on the 'learning economy'). In this regard, 'old' institutionalist approaches have suggested invested interests are the result of political tradeoffs and alliances, while 'new' institutionalist approaches have proffered the power of 'common understandings' (Powell and DiMaggio 1991). The latter is reflected in its treatment of organizational structure: whereas the old approach has emphasized informal interactions of influence and coercion, coalition and cliques, new approaches have located this activity within the formal structure of organizations (Powell and DiMaggio 1991; see also Chapter 2 for discussion). The above Luhmannian perspective is particularly supportive of this new institutionalist emphasis. Whereby, organizations are the 'functional structure for communications, which is set up to achieve certain aims and to fulfil specific purposes' (Gren and Zierhofer 2003: 618).

But whilst the unprecedented recognition of the production, distribution and exchange of 'knowledge' through 'learning' in the organization of production should be rightly commended for its reemphasis of economic renewal as a complex social process, it has its apparent limits among the least of which include considerations of conflict and coercion over differing interests (Hudson 1999). There is therefore a need here to distinguish the agent-based study of individual experiences of past events over time, and how the knowledge-meaning attributed to these experiences (cognitive-frames) may be institutionally reproduced and modified through the practice of agents' knowledge or experience of such events. Firstly, the adopted view of this investigation takes agents to be creative and continuously engaged in 'sense-making' (Weick 1979[1969], 1995, cf. also Weick 2001, 2009). Secondly, this view consists of explaining and understanding agency (practice - actions).

In response to the abovementioned research questions, the following investigation argues that cognitive-frames/consciousness, whilst the product of reflective practitioners (cf. Gavetti and Levinthal 2000, Schön 1991[1983]), are not bounded by the individual brain or mind. These frames are infused in institutional structures of rules, resources and concrete interactions (cf. Giddens 1984 on 'structuration'). Though, for the purposes of this investigation of industry-regional transformation, it is imperative that any conceptual 'fuzziness' between the abovementioned cognitive-frames and its infusion in the institutions of everyday practice is clarified. Following Scott (2001), the above social structures of cognitive-frames constitute the value and belief systems ('embodied') expressed through ideas, data and argument, and its interrelated dimensions of language and communication ('relational') as evident in, or expressed through the formal rules, norms and routines ('institutional') of everyday practice. Thus organizations and the cognitive-frames of agents that occupy them are 'social units' within institutionalized geographies of practice; 'organizations […] do not simply produce [institutional] geographies; they [organizations] are infused with them, and these spatial

ontologies and epistemologies are mapped onto their rules, procedures, and practices' (Del Casino *et al.* 2000: 524).

The above agent-centred orientation or organizational focus of this investigation is not devoid of an interrelated institutional component of analysis. It accepts 'that institutions or institutional analysis can be introduced as aspects to be factored into the explanation of [institutional] geographies lying in domains other than the institutional' (Philo and Parr 2000: 517). Put differently, organizations as the 'objects' of study are relatively easy to delimit, which, once probed, can reveal their wider social field of institutionalized practices (social networks and collective worldviews or 'common understandings'). Thus, in the effort to distinguish between the 'organization' and the 'institution' for an organizational analysis in this investigation, organizations are taken to be 'social units' within institutionalized geographies *of* practice, and in turn *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations.

This view takes a growing recognition of constraints that institutions impose on human agency, whilst acknowledging that institutions are simultaneously products of human agency. That is to say, 'organizations serve to execute complex tasks, and they usually establish criteria for taking decisions. [And] although organizations may depend on certain interactions (encounters, meetings, etc), the interactions are not [necessarily] constitutive of the organizations' (Gren and Zierhofer 2003: 618). In this way, an organizational analysis is able to distinguish between the differing stakeholder interests structured on juridico-institutionally bounded agent interactivity co-placed in an industry organization.

These institutional geographies of practice are 'geographical accomplishments' of agent interactions (i.e., restricted information flows, movements and communications) that bind and differentiate individual and collective action (Philo and Parr 2000). In other words, there is an indispensible spatial and temporal dimension to the cognitive-frames of agent interactivity whereby an organization is not only an object constitutive of the processes of human interaction (relational) within institutionalized power-pervasive environments (institutional) but also a subject (or observer) of its own environment through a self-applied awareness (embodied) of routine acts, inefficiencies, desired norms and injustices. In light of the above research questions it remains to be seen, however, how the institutions of agent-environment interactivity constrain sought after alternatives or introduce new preferences for organized activity. Luhmann's autopoietic systems adaptation can make a contribution in this regard. It offers a handle on the central objective of this investigation, which seeks to elucidate the links between differing agents' perceptions of industrial-regional change and the juridico-institutional structures within which they practice.

Following Luhmann, the analytical framework for this investigation stresses that the organization thus consists of multiple defined networks of communications and programmes (interactions), which may be co-present at any point in time by way of agent interaction. This

orientation has been preferred over the flat ontology of actor-network approaches[1]. Actor-network approaches tend to treat networks and actors as conduits whereby the unit-structure of analysis remains that of the network rather than the actor-organization as a structure for the co-placement of multiple defined networks or systems of interactions – a 'functional structure for communications' (Gren and Zierhofer 2003: 618, cf. Chapter 3). Besides, networks are constantly shifting and reconfigured (cf. Ettlinger 2001, Hudson 2004, Yeung 2005b,a). In this regard the agent-centred autopoietic-systems orientation of the above analytical framework is better placed to elucidate the links between agent perceptions, juridico-institutional boundaries of agency, and the overall aim to conceptualize change in the Portuguese footwear industry and Norte region.

Furthermore, the above orientation offers additional insight into the spatiality of knowledge-meaning appropriated to past experiences by industry and regional actors in this investigation. First, it contributes to recent conceptualizations of asymmetric knowledge flows (Cooke 2005, see also De La Mothe 2003). But perhaps more importantly for the purposes and emphasis of this investigation, this analytical orientation supports recent conceptualizations of knowledge flows or diffusion whereby the 'scalar envelope' interpretations of 'innovation systems' or the nested sub-systems of self-contained/self-regulated territorial knowledge capabilities have been rejected (for example cf. Cooke *et al.* 2004 [Braczyk et al.1998], Lundvall 1992, and Carlsson *et al.* 2002, Kaiser and Prange 2004). Second, it also contributes to the widely recognized notion of the 'region' as a relational construct through which heterogeneous flows of actors, assets and structures coalesce and take place' rather than 'a closed system or a container of intangible assets and structures' (cf. Yeung 2005b: 47).

Altogether, the above analytical framework ensures that the following intensive case study research of the Portuguese footwear industry and Norte region is not limited to one system phenomenon, but rather open to the possibility for co-present or parallel system phenomena. Again, this in turn justifies the focus of this investigation on the 'organization' as an appropriate unit of analysis. Moreover, the above analytical framework for this research enables a cross-examination of the co-present or convergent implications of industry and regional skills training strategies, regional development funding and innovation-promoting activities in a multi-jurisdictional environment of industry transformation.

[1] It should be dually noted that the above multi-faceted consideration of the Portuguese footwear industry extends beyond the in-depth characterizations, network relations and policy practices of industry clusters (Bathelt 2008, Bathelt *et al.* 2004, Cooke and Martin 2006) – notwithstanding the later discussions in this investigation of the brief exploration of cluster policies in Portugal (cf. Chapter 5).

1.4 CONCLUDING REMARKS AND DISSERTATION STRUCTURE

The historical development of the Portuguese footwear industry is far from uniform. An historico-institutional appreciation of the industry's integration of micro family-owned business and subsistence farming into informal household economic conditions, recurrent rounds of economic depression and boom, government instability, late industrialization and domestic market liberalization, foreign direct investment and divestment, subcontracting and internationalization of production, 'Europeanization' of industrial policy, and steep technological learning curves and an ever growing appreciation for the institutionalization of innovative activity have all contributed to differing rates of industry transformation and regional development within the industry. Any characterization of the Portuguese footwear industry under one model of industry-regional transformation would be erroneous at best.

The above consideration of the industry-regional case study for this investigation is evident in the parallels between its historical transformation into a globalized industry sector and its concomitant effects on regional development, and its institutional links to the evolution of Portuguese S&T/I policy. More importantly, however, its effects on regional development outcomes and its institutional links to parallel policy developments have involved both economic and social agents. These actors have included labour unions, State-led regional training organizations, business elites, as well as innovation-promoting institutional arrangements between the State, universities and industry organizations. As a consequence, the following investigation extends its analysis of actor narratives of industry-regional change to a number of individuals, events and organizations. This is an arguably complex research aim, considering the multi-level, cross-scalar realm of the multi-jurisdictional environments within which these agents operate.

In this regard, however, the above chapter has stressed the potential for multiple co-placed systems. This consideration broadly departs from the premise that all innovation presupposes change, but not all change presupposes innovation, which sets out to invoke an appreciation of the tensions between innovation and change. It stresses the distinct differences between innovation-enhancing institutional assemblages and other institutional ensembles, both of which can have parallel or co-placed roles in industry-regional transformation. Furthermore, this consideration exposes conceptual and methodological issues associated with the related historico-political complexities of charting agents' accessibility, or ability to mobilize finite resources, and their selective reasoning of industry-regional outcomes and its meaning in relation to practice. Altogether this consideration converges on the above analytical framework, which has been designed to offer insights into the self-regulatory and representative demarcations of juridico-institutional geographies of bounded agency. In doing so, this investigation takes observed agent-environment interactivity to be 'intimately bound up with, and to some extent subordinate to the cognitive' (Powell and DiMaggio 1991: 15, cf.

also Cumbers 2003). It takes growing recognition of the constraints that institutions impose on human agency, whilst acknowledging that institutions are simultaneously products of human agency. Its contributions offer a robust empirical analysis with the support of an innovative mixed-method approach to the investigation. It additionally offers a conceptualization of change in the Portuguese footwear industry, which departs from an understanding of organizations – as the platforms of multiple co-placed stakeholder systems – to be 'social units' within institutionalized geographies *of* practice and in turn *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations.

1.4.1 Dissertation Structure

The following investigation contemplates the context of inter-subjective sense-making and symbolic '[social] constructions of reality' through which shared interpretations are created (Berger and Luckmann 1979). Inspired on the seminal albeit relatively underappreciated work of Niklas Luhmann (cf. Luhmann 1997), this investigation constructs a conceptual and methodological position that departs from the recognition that a characteristic feature of modern society is its differentiation as a variety of functionally specialized subsystems; that is, a rejection of the space of a 'system' as an a priori social entity in favour of an internally fragmented and contingent space, which is shared with the differing codes, norms or programmes of other organizations and their respective interaction systems. The research is thus able to offer a greater appreciation for the reflexive and complex dimensions of industrial planning and development, and the political responsibility to socially just forms of regional development.

The remainder of this dissertation is structured into seven chapters. The subsequent two chapters expand the above discussions on the analytical framework for this investigation (Sec. 1.3.1-.2 respectively) in Chapters 2 and 3. Chapter 4 offers a comprehensive discussion of the 'adaptive theory' approach that has been adopted as the research methodology for this investigation. It offers a fresh and radical alternative to other methodologies that often have a preference for one over another, offering a mixed-method approach to this investigation through comprehensive integration of 'extant' data, semi-structured interviews and a cognitive-mapping of interviewees' perceptions of change.

Chapter 5 begins to introduce the subject or case study of this investigation. It has been strategically placed to articulate an empirically-informed historical and political-institutional backdrop for subsequent chapters on the analysis of fieldwork data. It outlines the roundabout evolution of S&T/I policies in Portugal, and subsequently brings this political-institutional

context to reflect on the parallel albeit inter-related process of institutionalization and growth in the Portuguese footwear industry.

Chapter 6 presents the results of twelve semi-structured interviews, which have been discussed as a series of change narratives. This respondent data subsequently gives rise to a cognitive mapping exercise of which the results are then presented in Chapter 7. The cognitive maps offer a unique opportunity to re-examine respondent data from the semi-structured interviews (Chapter 6) as well as the footwear firm and industry funding dataset in the previous chapter (Chapter 5). The maps reinforce the links between agents' perceptions, or understanding of change on the one hand, and the development and practical use of their knowledge of change on the other. The above discussed analytical framework for this investigation is revisited in the concluding and final chapter. Chapter 8 discusses a conceptualization of 'change' in the Portuguese footwear industry and Norte region as 'juridical space', together with concluding remarks and policy recommendations.

Chapter 6 presents the results of twelve semi-structured interviews, which will be discussed as a series of change narratives. This respondent data subsequently gives rise to a cognitive mapping exercise of which the results are then presented in Chapter 7. The cognitive maps will offer a unique opportunity to re-examine respondent data from the semi-structured interviews (Chapter 6) as well as the footwear firm and industry funding dataset in the previous chapter (Chapter 5). More importantly, it will have begun to elucidate the probable links between agents' perceptions, or understanding of change on the one hand, and the development and practical use of their knowledge of change on the other. Concluding comments and a conceptualization of the experiences of change within the space of industry transformation as 'juridical space' is considered in the concluding and final chapter.

Chapter 2 Innovativeness, Institutionalism and the 'Particular'

2.1 INTRODUCTION

This nexus of innovation and spatial diffusion allows one to begin to explore the intrinsic relationship of innovation to development. In other words, a consideration of 'innovation and space' (cf. Simmie 2005 for overview) that is not necessarily limited to the spatialities of innovative practices. What does a successful innovation diffusion process suggest for development? In particular consideration of the spatial diffusion of innovation and its uneven affect on regional development, what are the implications of limiting the associated (regional) change with innovation-driven economic growth and development? The following and subsequent chapters will look to address these questions through an exploration of academic discussions on the 'particular' (Berglund, 2004) in innovation studies and the 'micro' / 'macro' tensions (cf. Ettlinger 2003, Sunley 2008, Yeung 2005b) in regional [economic development] studies. This follows the discussion of this investigation in Chapter 1, which places emphasis on the particulars of agent interaction as 'intimately bound up with, and to some extent subordinate to the cognitive' (Powell and DiMaggio 1991: 15).

The early interpretations of the innovation diffusion process were largely structured on works developed from the mid 1950s to late 1970s; two notable and widely cited works during this period include Torsten Hagerstrand's *Innovation Diffusion as a Spatial Process* (1967) and Everett Rogers' *Diffusion of Innovations* (2003[1962]). These, among the many other works during this period, were incorporated into one of the most multifaceted and interdisciplinary works on innovation diffusion in the seminal work on *Innovation Diffusion: A New Perspective* by Lawrence Brown (1981). This work is exceptionally notable for the emphasis it places on the spatial impact of innovation diffusion. It was directed at redressing the large amount of work on diffusion and adoption at the time, and it continues to provide insights into ongoing debates notwithstanding its apparent limitations.

Brown (1981) offers a conceptual model that has expanded the traditional concerns with innovation adoption, contrasting the cultural geographic works of Carl Sauer (1952) and Torsten Hagerstrand (1967)[2], and setting the grounds for his contributions to innovation diffusion. Drawing on the Sauer tradition, Brown stresses that diffusion research has long been

[2] Diffusion studies in the Sauer tradition are relevant in so far as they clarify questions of culture origins; '*culture* and the human or cultural *landscape* are the main concern' whereby the emphasis is placed on a single phenomenon's spatial distribution 'as the outcome of a process unfolding over space and time' (Brown 1981:16-17, see also note below). Studies in this regard have placed emphasis on describing ever-changing relationships rather than attempting to understand the specific processes by which the diffused item (e.g. technological innovation) moves from one location to another. The Hagerstrand tradition places emphasis on the *locational* qualities of the generative processes driving, and the regularities of the diffusion of manufactured innovation albeit not entirely inconsistent with the Sauer tradition.

the subject of inquiry for cultural geography for which the goal has been 'to identify environmental features characteristic of a given culture[3] and if possible to discover what role human action plays or has played in creating and maintaining given geographic features' (Wagner and Miskesell 1962:1, quoted in Brown 1981).

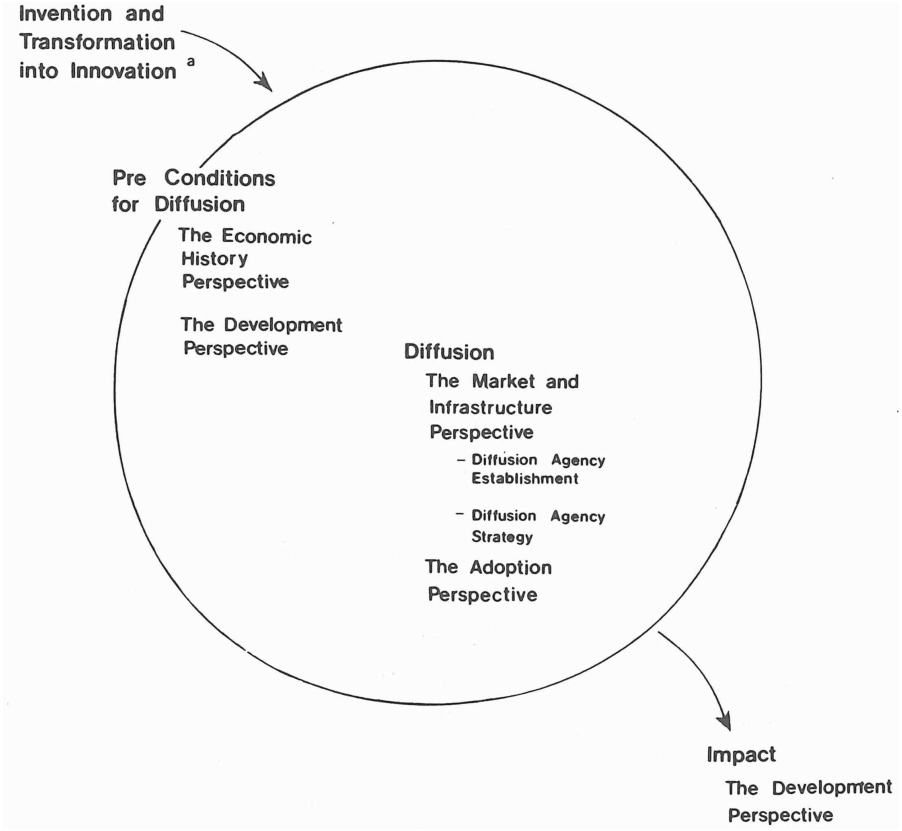
According to Brown, at the time, the innovation diffusion process had been studied from four distinct perspectives. He discussed each of these perspectives separately: 'economic history', 'adoption', 'marketing and infrastructure', and 'development' perspectives. Taken together, despite the apparent lack of cross-referencing between perspectives, Brown still manages to provide a comprehensive synopsis of the innovation diffusion process. In fact, Brown encourages the integration of these four perspectives in future research. His emphasis on the integration of all four perspectives (Fig. 2.1) is most noteworthy – especially considering it predates far more recent debates concerning among others[4] a 'relational turn' in economic geography, which has been the product of 'discipline-political arguments, opinions and claims' (Bathelt and Gluckler 2003: 118, cf. also Boggs and Rantisi 2003, Yeung 2005b).

The 'economic history' perspective views innovation diffusion as a continual or evolutionary process. For example this may include the invention of the computer, which subsequently undergoes frequent incremental changes or innovations to its memory capacity and processing speed over time by adapting to, and encouraging new market demands. These adaptations or innovations were viewed as the necessary pre-conditions for expanding the possibility of new product options to a wider range of users. This perspective also rests on a second major area of research that concentrates on the innovation diffusion process itself, which aims to illustrate adoption patterns by understanding the generative causes behind those that adopt and those that choose not to do so. These concerns, which date back to the early 1900s appealed to geographers and anthropologists who compared the role of innovation diffusion to the formation and change of culture. Sociologists, on the other hand, took a particular interest in the imitation behaviour of adopters to explain differences in patterns of innovation diffusion. Toward the middle of the twentieth century, there was an increased focus on innovation rather than on the more generalized diffusion process and culture.

[3] Compare to Tuan (1976) on *Humanistic Geography* where the author advances a contingent and dynamic behavioural geography or study of human spatial behaviour. This shift to the study of perceptions, values and meanings was the primary contribution to a 'humanistic geography'; in the section on 'territory and place', Tuan stresses that 'how mere space becomes an intensely human place is a task for the humanistic geographer; it appeals to such distinctly humanistic interests as the nature of experience, the quality of the emotional bond to physical objects, and the role of concepts and symbols in the creation of place identity' (ibid: 269). See also Tuan (2003[1977]) on *Space and Place: The Perspective of Experience* and compare with the far more recent discussions on a 'cultural turn' in economic geography (cf. Amin and Thrift 2000, Barnett 1998). See also special 2001 issue of Antipode, 33(2) for wider discussion

[4] See also Boschma (2007) and Grabher (2009) on 'evolution' in economic geography, and 2001 special issue of Antipode 33(2) and 2009 special issue of Economic Geography 85(2) for wider discussions on the 'relational', the 'cultural' and the 'political economy of evolution' in economic geography.

Figure 2.1 The Innovation Diffusion Process in Terms of the Perspectives From Which It Has Been Studied



Source: Brown 1981:12

Brown (1981) also directs our attention to the 'adoption' perspective, which had had a long standing presence in innovation diffusion research as possibly 'one of the most successful of all social science paradigms!' (ibid: 5). This perspective has coincided with innovation diffusion research and it continues to have the most direct input into policy today.[5] The main contention over this perspective has concerned the 'learning' or 'communication' processes that constitute the adoption of innovations. The first fundamental steps in understanding the 'learning' and 'communication' process were realized through an assessment of the effective flows of information – the nature of this information, and the instances of when it is welcomed or resisted (cf. Chapter 3 for further discussion). The apparent focus on the individual adoption or resistance to innovation by potential adopters relied on their propensity to adopt, or the 'innovativeness' of adopters as evidenced by their social (relations), and economic and cognitive attributes. The drawback, however, is evident in the underlying assumption that all individuals have an unfettered access to innovation, or an ability to innovate.

[5] Systematic concerns with adoption include the European 'Community Innovation Survey' and 'Innovation Scoreboard', notwithstanding the innumerous academic articles and commissioned reports that use/scrutinize the data. See also Rogers and Shoemaker's (1971) summary of the adoption perspective, in *A Communication of Innovations: A Cross-cultural Approach*, for an early review as well as Hagerstrand's (1967) representation of the adoption perspective in geography.

But ‘the opportunity to adopt is egregiously and in many cases purposely unequal’ (1981: 7) as Brown then argued in his ‘market and infrastructure’ perspective. This perspective shifts the demand focus of the individual adopter to the supply aspects of the agencies of innovation diffusion. It emphasized the processes by which innovation and conditions for adoption are made available, while remaining complementary to that of the ‘adoption’ perspective. Brown (ibid: 8) argues that:

> [i]ndividual behaviour does not represent free will so much as choices within a constraint set and that it is government and private institutions which establish and control constraints.

He went on to argue that a ‘research corollary’ of this claim is that a great deal of variance can be taken into account by analyzing the institutional, rather than individual behaviour (ibid: 8, cf. Chapter 1 and Sec. 3.2 for discussion).

Finally, the ‘development’ perspective examined or concerned itself with the impact of the innovation diffusion process on economic development, individual welfare and social change. More importantly, Brown recognized that innovation diffusion and its impact areas were mutually constitutive. In other words, he recognized that a state of economic development, individual welfare or social change can have a mutual impact on innovation diffusion itself. He considered these impacts of innovation diffusion processes to include public programmes of diffusion, which would require assessments of their negative and indirect effects to ensure more ‘suitable’ impacts[6]. Though, his use of the term ‘suitable’ in the ‘development’ perspective suggests a ‘functionally effective’ (ibid: 37-47) outcome in territorial development terms. In fact, the ‘development’ perspective is an extension of the ‘market and infrastructure’ perspective that emphasizes the importance of public infrastructure as well as access to its resources for innovation diffusion. This unmistakably utilitarian take on the ‘[territorial] development’ perspective begs the question of ‘what kind of local and regional development and for whom?’ (Pike *et al.* 2007).

Whilst each of the abovementioned perspectives is underdeveloped by comparison to the level and extent of writing and debate on each of the strands over the past three decades, the work remains noteworthy for its attempt to incorporate the perspectives of ‘economic history’ (evolution and path dependency), ‘adoption’ (learning, interaction and organizations), ‘marketing and infrastructure’ (resources and accessibility) and ‘development’ (competitiveness, growth and social cohesion). This is especially significant considering recent debates on a relational economic geography (Boggs and Rantisi 2003, Sunley 2008, Yeung 2005b) and more recently a political economy of evolution in economic geography (cf. Hodgson 2009, Mackinnon *et al.* 2009, Pike *et al.* 2009). Accordingly, the following section takes a critical look at the search for the ‘particular’ in universal language of innovation studies in the following section.

[6] cf. Evers (2008) and Evers *et al.* (2009) on current issues concerning ‘territorial impact assessment’ and territorial cohesion

2.2. INNOVATIVENESS: MOVING BEYOND A UNIVERSAL LANGUAGE

In the remaining sections of this chapter, A critical look at the use of the 'particular' in innovation begins by probing the notion of 'innovativeness', of what it means to be innovative. This concern with the 'particular' in the following section contributes to a subsequent discussion of active academic debate in recent years concerning institutionalisms in, and 'turns' toward increasingly heterodox studies of economic geography (Sec. 2.3). The latter discussion highlights the evident albeit debated challenge of determining appropriate 'foundational units of analysis' (Sunley, 2008). This unrelenting search for the 'stability' of analysis is located particularly at the crossroads of academic debates over the 'relational' character of agent-environment interactivity generally and a relational economic geography in particular.

2.2.1 In Search of a Consistent Definition of Innovation

An enthusiastic rush to explore the role of innovation toward economic advantage has yielded a richly diverse array of definitions that aim to label and identify innovative processes of new product development and organizational change. Innovation is generally associated with change. The innovative economic process is a response to the changes demanded of organizations due to frequent shifts in consumer demand and increased global competition, while simultaneously relying on the ability of organizations to change or adapt to new demands accordingly so as to ensure innovative success.

The dramatic increase in the literature addressing the role and nature of innovation has been prompted by the recognition of its fundamental contribution to entrepreneurship and business success. A key feature of this broadly defined innovation phenomenon is the perpetual motion of knowledge that requires organizations to keep pace with change through innovative behaviour that will ensure their competitive advantage.

Though, Johannessen *et. al.* (2001) suggest that there is a lack of a common definition of innovation. And without a clear definition of innovation, they argue that its measurement is not possible. Thus when unable to appropriately measure innovation, theory development is impeded. The authors describe the literature on innovation as broken into four different approaches or orientations, which reflects the inconsistency of definitions[7]. These different orientations include individual-, structure-, interactive- and systems of innovation-oriented approaches. In the first the role of individual factors e.g. age, educational level, gender, cognitive style and creativity are central to the analysis of innovation potential. A determinant

[7] The emphasis on economic forms of innovation in this chapter, including Johannessen *et al.* (2001), recognizes the well established breadth of work on "social innovation". See for example the recent edited volume by MacCallum *et al.* (2009) on *Social Innovation and Territorial Development*.

of individual behaviour contingent on these factors subscribes to the notion of the rational actor. The second focuses on organizational characteristics, examining how these organizational environments encourage and constrain innovation. The third studies how action influences organizational environments and vice versa, while placing some attention on political contexts. The fourth and final approach interests itself in the influence of national and regional systems of innovation on the innovation process and activity in firms. The focus is placed on the study of the organization in this process and its context, exploring the associated processes of interactive learning, knowledge creation, its use and exchange with other sources of knowledge. The essential line of reasoning among the authors of this approach is that firms do not innovate in isolation.

A common thread across the most widely used definitions of innovation is 'newness', the perception of which has been essential to the conceptualization of innovation and its link to entrepreneurship (ibid.). However, Johannessen *et. al.* argue that the associations drawn between 'newness' and definitions of innovation do not articulate consistently between 'what is new', 'how new', and 'new to whom'. They argue that 'specifying what is 'new' is important for distinguishing innovation from mere change' […] 'because all innovation presupposes change, but not all change presupposes innovation' (2001: 22). With this said, to what degree or extent does innovation constitute 'newness'? And who is being innovative?

These questions are reflected in the different approaches to the definition of innovation, from individual-oriented approaches, which take into account individual human factors of age, educational level, gender, etc., and systems of innovation-oriented approaches. Nonetheless, one may reason that innovation is 'any idea, practice, or material artefact perceived to be new by the relevant unit of adoption' (Zaltman *et. al.* 1993: 556, quoted in Johannessen *et. al.* 2001). Yet still the following definition of innovation by the European Commission offers a more comprehensive interpretation as that of a:

> 'commercially successful exploitation of new technologies, ideas or methods through the introduction of *new* [emphasis added] products or processes, or through the improvement of existing ones. Innovation is a result of an interactive learning process that involves often several actors from inside and outside the companies (European Commission 1996: 54).

But Johannessen *et. al.* (2001) want to draw attention to the general lack of consistency between the definitions of innovation and innovation measurement where efforts have been made to distinguish what is 'new'. Examples of these shortcomings include a heavy focus on research and development (R&D), which continues to sustain linear approaches to innovation as opposed to the more complex interpretation of innovation-systems-orientated approaches, a focus on the proportion of scientists and engineers which may exclude other members of the organization involved in the innovative activity of the firm not to mention those outside the firm helping to encourage (or constrain) the process, and finally the failure to distinguish between commercialized and non-commercialized patents.

The degree or extent to which innovation is 'new' returns to the issue of an innovation phenomenon's association with change. The degree or extent of innovation occurs along a continuum between 'incremental' and 'radical' innovation. 'Radical' innovations can yield fundamental changes, whereas 'incremental' innovations will entail a lesser degree of departure from the paradigm of existing practices. Both of these definitions commonly refer to within-organizational change of the firm (ibid: 23). Though in order to determine the nature of innovation, Johannessen *et. al.* (2001) suggest that it must first be identified to whom these new products, services, markets etc are relevant. The authors' postulation maintains that the degree of relevance runs continuously and parallel to the degree or extent to which innovation is less or more 'radical'; the more 'radical' it is, the more organization-changing and paradigm-shifting it will be. This can be achieved, they claim, by analyzing 'newness' with respect to the company, the market or the industry. But there are limits to the former two, which force them to side with the latter. A firm-based study, which assesses 'newness' with respect to the company, is unlikely to reflect a product's impact on either competitors or customers, while the use of a market-framework will narrowly focus on product innovation. However, the preferred industry-framework for determining the relevance of innovation is both broad enough with respect to the product developments in the market as well as inclusive of the process innovations relevant to other organizations in the industry.

2.2.1a Conceptual Diversity of Innovation

Innovation discourse has been traditionally diverse (cf. Sauer and Hagerstrand). But as innovation borders on a wider range of phenomena and concepts, the result is a number of different conceptualizations and definitions of innovation that makes it ever more difficult to pin down (Berglund, 2004). To illustrate this point, Berglund discusses four common conceptualizations of innovation.

The first is referred to as the 'individual-cooperative'. It examines individualist perspectives that place a premium on the entrepreneurial qualities of an individual with a propensity for risk-taking, a focus on the need for achievement, and a problem-solving style and innovativeness among others. This is set in contrast to the cooperative element of innovation, which authors Becker and Whistler have referred to as the distinguishing feature between the 'co-operative group action' of innovation and invention or 'the *creative* [emphasis added] act of the individuals'[8] (1967: 463, quoted in Burglund, 2004). This is followed by the second, which consists of two paired streams of thought. 'Outcome-process' sets the end product of the innovation process, or the commercialization of an invention such as a newly

[8] cf. also 'learning firm' in Section 3.3.1a

patented product, in contrast to the study of the process that has taken the invention from concept to commercialized product.

The third is 'adoption-use', which helps to clarify the confusion over the first two conceptually different concepts. Freeman makes this quite clear in stating that 'invention is the solution to a problem […]. An innovation is the commercially successful use of the solution' (1982: 7, quoted in Berglund 2004). Recent studies of innovation have largely focused on the adoption and diffusion of new innovations, which Berglund suggests may be due to the focus on 'newness' whereby definitions of innovation are consigned to the 'adoption of means or ends that are new to the adopting unit' (Downs and Mohr 1976: 701, quoted in Berglund). Related but conceptually different from adoption-oriented definitions of innovation are those who have emphasized 'use' (cf. Kanter 1983). In which case, the organization that first brings any new problem-solving idea into *use* is properly credited as the innovator.

In the fourth, finally, a common thread in the identification and labelling of innovation is paired with another element commonly associated with innovation. The conceptualization of 'newness-change' builds on the notion of innovation as reflected in a fundamental change or departure from established practices or routines. The preferred use of this conceptualization generally refers to the perceptions of 'newness' appropriated to any idea, practice or product by the innovator or group of innovators as mentioned in the previous three conceptualizations. Along the same lines, however, Damanpour and Evan define innovation at the level of an organization as the 'implementation of an internally generated or a borrowed idea – whether pertaining to a product, device, system, process, policy, program, or service – that was new to the organization at the time of adoption' (1984: 383, quoted in Berglund, 2004). Though, the innovating organization is the only social actor in this conceptualization of innovation. The organization's interaction with other idea generating entities is not addressed; they are purely resources from which the idea is borrowed.

And in light of the departure for this investigation, which maintains that 'all innovation presupposes change, but not all change presupposes innovation', Johannessen *et. al.* (2001) suggest that 'specifying what is new is important for distinguishing innovation from mere change […]'. Thus any effort to comprehend agents' experiential knowledge of change in the space of industry-regional transformation must recognize that 'mere change' (political economic struggle) may be bound up inevitably in processes of 'newness-change'.

Furthermore, change is inextricably linked to innovation as suggested in the abovementioned 'development perspective' (Brown 1981), and the 'outcome-process' and 'newness-change' conceptualizations (Berglund 2004). But 'development', 'outcome' and 'change' have been largely consigned to 'competitiveness' and 'efficiency' concerns. Accordingly if the bound up nature of innovation and change is to be taken forward critically, then it is imperative that one begin to explore how innovation, as part and parcel of industry transformation, may be bound up in social and economic struggle. Powell and DiMaggio

(1991: 33) address this very point, suggesting that with respect to 'competition and efficiency, we must first distinguish between the *processes* [emphasis added] by which an organization makes a change from the effects of the change it has made'. That is, for the particular purposes of this investigation, there must be a consideration of innovation-enhancing institutional forms on the one hand, and a conceptualization of industry transformation and regional development on the other (cf. Sec. 1.1 on introduction to research design). To all intents and purposes, Powell and DiMaggio stress the need to distinguish between 'functionally differentiated' (cf. Luhmann 1995, cf. Secs. 1.3.2, 3.3.1) systems of agent interaction, or in other words the need to distinguish the operational spheres within which an organization imparts change from its environment where the effects of that change may be felt (cf. Sec. 3.3 for the ownership of action in self regulation and task representation).

Needless to say, the number of different conceptualizations and definitions is on the increase. Berglund (2004) aptly states that 'innovation is indeed an elusive beast and one which is hard to capture and retain within any concept'. Johannessen *et. al.* (2001) have attributed this to the dissatisfaction that researchers have had with the labelling and identification of innovation. In turn, they have attempted to draw out common threads such as the concepts of 'adoption' (Knight 1967, cf. also Brown 1981), 'use' (Kanter 1983) and 'newness' (ibid.). But Berglund (2004) argues that the result is ever more elaborate classifications of innovation determinants and moderators, coupled with more systemic and coordinated analyses.

Though, welcomed for their useful diversity and handle on problems in the field, Berglund claims the approach has an important limitation: the 'prevalence and continuous reification of concepts' has limited the possibility for 'revising and falsifying the theoretical assumptions' (2004: 8). This is reflected in the lack of an appreciation of the 'nuances' associated with social phenomena under investigation, echoing Markusen's (1999) discussion of 'fuzzy' concepts that begin to stand in for the process itself. The result, she suggests, is an inability to transcend existing concepts and operationalizations, locking researchers into constructs, such as individualist theories of 'entrepreneurship' that do not exist in reality; that is, entrepreneurship is both cultivated and an innate attribute of the individual. In other words, it exists as a conditional act at the intersection of a combined product of individual self-interests, and collective norms and values.

For instance, what role should one attribute to the individual or independent organization that has strategically encouraged, with the aid of public funds, a technological solution to a problem conceived in one organization and then subsequently has introduced it to another organization that was able to make a profitable first use of it? In line with what already has been discussed, the organization that made the first use of the technological solution of the inventor is the innovator-entrepreneur and organization. The innovating organization is credited for sustaining its competitive advantage by making the necessary organizational

changes that facilitated the successful first use of the technological solution. And the organization that strategically made this possible through the use of public spending is relegated a power of influence or a contingent role in the innovation process. Whilst this abstract scenario may serve to highlight the performance or evolution of innovation-enhancing institutional forms of interaction on the one hand, little remains understood about how these processes may be bound up with regional and non-economic actors' experiences of change in the space of industry-regional transformation on the other. *How is a social phenomenon such as change conceived by different agents, who may be driven or constrained by individual and organizational world views, or working within functionally differentiated spheres of interactivity yet endowed with different and often unequal powers and resources?*

Again, while it is imperative that innovation is distinguished from mere change, emphases on solely identifying 'change' as a function of 'innovation' can abstract away action-related changes that have been indirectly associated yet strategically important to the overall success of industry-regional transformation. With the above arguments from Berglund (2004) and others in mind, the remainder of this, and subsequent chapters will explore these differing experiences of change as the 'creative and serendipitous activity, practically and institutionally embedded, and subject to a range of internal and external influences' (ibid: 8). However, as already mentioned, this understanding is not without its share of conceptual and methodological as well as historico-political complexities (cf. Secs. 1.3.1-.2). The methodological concern with boundaries (*i.e.*, order and degree of analysis) between agents, social structures and environment, and the inclusion/exclusion of particular actors, institutional determinants and events is a key issue. *What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation*? In this regard, therefore, how does one appropriately situate 'action' as the practice of agents' knowledge of change within the space of industry-regional transformation? An appropriate response to this challenge will be able to provide an organizational analysis of organizations as 'social units' within institutionalized geographies of practice, and in turn *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations.

2.2.1b 'Practical Use of the Particular': Beyond Universal Language

The work of Johannessen *et al.* (2001) signals the inconsistency between definitions of innovation and innovation measurement. Though, it remains centred on functionally differentiated processes of agent interaction systems of innovativeness (innovator-entrepreneur/organization) and innovation-driven change as distinct from 'mere change'. But

the research lines and objectives for this investigation (cf. Chapter 1) partly mirrors the line of reasoning argued by Berglund (2004), who suggests that diversity in agent descriptions more adequately explains the social phenomenon of innovation.

More importantly, Berglund claims that certain rule-establishing theories of the innovation process have failed to capture the particularities of marginal innovation practices. Among the authors commonly cited with such rule-establishing theories of innovation is the precise and diverse concept of 'newness' by Johannessen *et al.* (2001). Though, Berglund suggests that an alternative to such assertions would focus on those aspects of 'reality' that have been abstracted away. Of course, on a methodological level the boundaries placed on those factors abstracted away may be linked to concerns associated with the need for 'analytical stability' – a 'starting place for understanding peculiarity' (Sunley 2008: 16). And surely on a conceptual level some abstraction is necessary for the accumulation of knowledge and the possibility of generalization for conceptual development or theorization (cf. Markusen 1999 on 'fuzzy concepts, scanty evidence and policy distance')[9].

Recognizing these methodological and conceptual concerns, Berglund claims that:

> Seeing conceptualizations of reality shift meanings in the face of practice it is easy to be hit by a sense of Cartesian angst, a fear that there are no foundations on which to ground empirical research and practical advice. This fear can be overcome [..with a..] shift in methodology (Berglund 2004: 14)

Berglund suggests a 'purposeful identification of theoretically and practically interesting cases' through 'maximum variation', 'extreme' and 'critical' case sampling (2004: 15). Other views include Sunley who identifies the need for 'compartmentalizing and configuring relations' in space and time (2008: 16) and Somers (1998) who advocates a 'problem' versus 'theory' driven approach to actor selection and relational studies. To achieve 'analytical stability' one may reason that studies typically seek to isolate and empirically test different determinants, moderators and contingencies, adhering to the rationale that 'good theory should enable accurate prediction and control of events' (Downs and Mohr 1979: 391). Somers (1998), Berglund (2004) and Sunley (2008) generally support that diversity in descriptions may more adequately explain social phenomena, notwithstanding of course the methodological implications for systematic empirical research of peculiarity or the 'particular'.

For Berglund (2004) this concern especially lies with the process of abstraction in 'nomothetic' studies that focus on process according to general laws (cf. Markusen 1999): 'If this [methodological] strategy fails the level of abstraction is typically either raised […] or by revising concepts or introducing contingencies […] where parts of reality, particularly rare and deviant aspects, must always be ignored' (ibid: 1, cf. also Markusen 1999: 871 on 'contingencies' and the boundaries of analysis). The result, Berglund claims, is just 'more of the same' (2004: 8) [theory driven] studies that are locked into precise definitions that insufficiently run up against the reality of actual practice. This is equally echoed in his claim

[9] See also Hudson (2003) and Markusen (2003) for responses to Markusen (1999).

that ‘the dilemma of combining context-independent concepts with the context-dependence of reality’ (p. 4), or in other words ‘the failure of abstract concepts to capture the detailed workings of reality as it unfolds’ (p. 1). In the sections that follow, the above argument is explored in a discussion of new institutionalisms in organizational analysis (cf. Powell and DiMaggio 1991).

2.3 INSTITUTIONALISMS AND THE ‘PARTICULAR’ IN ORGANIZATIONAL ANALYSIS

Like the vast and expansive terrain of innovation ‘there are as many new institutionalisms as there are social science disciplines’ (Powell and DiMaggio 1991: 1). However, before defining the stream of ‘new institutionalism’ in organizational theory and sociology, it is important to first distinguish it from the earlier thinking. Generally speaking, ‘[i]nstitutionalism is a theoretical strategy that features institutional theories and seeks to develop and apply them’ (Jepperson 1991: 153)[10]. New institutionalisms span a range of scientific disciplines from economics, political science and history to organization theory, public choice and sociology. Each is rooted to their disciplinary backgrounds accordingly. And little in the way of convergence can be expected with the exception of a general scepticism toward atomistic accounts of social processes and that institutional arrangements within these processes in fact matter (Powell and DiMaggio 1991: 3).

But the tendencies that Powell and DiMaggio highlight should not be interpreted as unified fronts, or, for that matter, clear with respect to concepts e.g. ‘rational-choice’ that set them apart. The authors note that ‘the variation in the treatment of institutions between disciplines tends to be greater than the variation within them’ (ibid: 34, cf., also Jepperson 1991: 157 on institutional and rational-choice arguments). Furthermore, the resurgence of interest in the study of institutions evident in these tendencies is a reaction to the old behaviouralist notions that economic and political action was the aggregate result of individual choice, and the older tradition of political economy that lacked the ‘explanatory punch’ in their largely descriptive and historically specific account of enduring interconnections between polity, economy and society. They are broadly ‘an attempt to provide fresh answers to old questions about how social choices are shaped, mediated, and channelled by institutional arrangements’ (p. 2).

The following section and subsequent chapters adhere to the branch of ‘new institutionalism’ within organizational theory and sociology, which focuses on organizational structures and processes that are industry wide, national or international in scope. It rejects rational-actor models and takes an interest in the institutions of these organizational structures

[10] See also Section 3.2 for elaboration of the realms of the organizational and the institutional in agent v. institution-centred explanations.

and processes and the organizations themselves as mutually constitutive. Following Luhmann (1995), institutions reveal themselves in organizations' application of 'distinctions' between their operational sphere of agent-interactivity and the environment of other complementary or incompatible activity. In turn, these distinctions may reveal the shared knowledge of appropriate responses to change at particular points in time and space (i.e. an institutionalization of practice), which enables a socially desirable or shared way of ascribing meaning to socioeconomic circumstances, and those norms competing for legitimacy. For the purposes of this investigation then, the actor-organization is a structure for the co-placement of multiple defined networks or systems of interactions – a 'functional structure for communications' (Gren and Zierhofer 2003: 618, cf. Chapter 3 for full discussion). Hence the application of such distinctions opens the [social] system for conditions of the environment, but as internal operations they close the system by distinguishing it from its environment.

In other words, these distinctions may reveal both a *self-regulatory* dimension of adopted norms, values and routines, which is evident in the knowledge-meaning attributed to industry and regional change concerns and the subsequent emergence and reinforcement of organizational interests (codes, programmes and agendas), and a *task representative* dimension of influence over agent-environment interactivity and the distribution of, and accessibility to industry-regional resources through selective social interaction, which is evident in the identification of activities or tasks and resource criteria (policy guidance, laws/regulations or endorsements). In this regard, emphases on cognitive and cultural explanations have been accompanied by 'supraindividual' analyses that are careful not reduce these studies to the consequences of individual attributes or motives (Powell and Dimaggio 1991, p. 1, 8-9). That is, an organizational analysis of organizations as 'social units' within institutionalized geographies of practice, and in turn *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations. Accordingly, the aim of the following section is to draw out this attention to the 'particular' in the following discussion of institutionalisms in organizational analysis.

2.3.1 New Institutionalisms in Organizational Analysis

'New' institutionalism in organizational analysis 'emphasizes the ways in which action is structured and order made possible by shared systems of rules that both constrain the inclination and capacity of actors to optimize as well as privilege some groups whose interests are secured by prevailing rewards and sanctions' (Powell and DiMaggio: 11).

New institutionalism (hereafter neoinstitutionalism/ist) diverges from but is rooted in the earlier works on institutionalism by Selznick (1949, 1957, i.e. 'old institutionalism'). Both old and new approaches to institutionalism view institutionalization as a state-dependent process,

emphasizing the interaction of organizations with their environments and the role of culture in their organizational reality. There is also much continuity between old and new approaches due to the 'rational and material cast' of alternative approaches available to organizations.

Old institutionalism was political in its analysis of group conflict and organizational strategy. By contrast, neoinstitutionalism downplays conflicts of interest between organizations and focuses on how organizations respond to such conflicts instead (Scott and Meyer 1991); the initial works stressed how institutions tend to prevent actors from acting upon their interests freely. Both approaches also concur that institutionalization constrains organizational rationality, but the views on sources of constraint differ. The old approach suggested invested interests were the result of political tradeoffs and alliances, while new approaches stress the power of 'common understandings'. This is reflected in their treatment of organizational structure. Where the old approach emphasizes informal interactions of influence and coercion, coalition and cliques, new approaches locate this activity within the formal structure of the organizations.

Another fundamental difference between the two approaches concerns their conceptualization of the environments or contexts within which organizations operate. Older works view organizations as embedded in local inter-organizational agreements ('co-optation') maintained by face-to-face interaction, whereas neoinstitutionalist accounts focus on non-local environments that penetrate an organization and influence the way actors view the world. However, both of the above emphases can reveal the co-presence of multiple cognitive-frames ('psychic systems') in face-to-face interaction as functionally distinct from, albeit open to its non-local environment of complementary and incompatible interactions, which intrinsically may have a subsequent influence on internal operations (cf. Secs. 1.3.1-.2 and 3.3.1b for elaboration of Luhmannian perspective for this investigation). This is reflected in the contrasting views of both approaches on institutionalization. Older institutionalists viewed organizations as the units institutionalized as well as the loci of the process of institutionalization. Neoinstitutionalists, however, understand this process to occur at the more diffuse level of sectors or societies[11]; it is the 'organizational forms, structural components, and rules, not [the] specific organizations [that] are institutionalized' (Powell and DiMaggio 1991: 14). Once more, this highlights the understanding of organizations for this investigation as the 'social units' within institutionalized geographies of practice, and in turn *of* institutions, which does not discount the role of individual action and powers in the process.

Because the locus of the institutionalization process occurs within and across organizations, it was viewed in older works as increasing interorganizational diversity. Neoinstitutionalists, on the contrary, have recognized it for its potentially homogenizing effect as well as the stability of institutionalized components. Despite both old and new

[11] Again see Luhmann (1995) in Fig. 3.1 on the position of social systems and its different levels of analysis: organizations, interactions and societies.

institutionalisms rejecting organizational behaviour as the sum of individual actions, they do so in accordance to differing views of individual action. Neoinstitutionalists reject outright the pure 'intentionality' of individual actors and its unexpected outcomes, stressing alternatively to older works, 'the unreflective, routine, taken-for-granted nature of most human behaviour and view[ing] interests and actors as themselves constituted by institutions' (ibid: 14, cf. Chapter 1 on cognitive-frames and Sec. 3.3.1b on 'psychic systems' for elaboration).

This is underscored by the conceptualizations of the cognitive base of institutionalized behaviour by old and new institutionalisms. For old institutionalists like Selznik, this meant that the organization was institutionalized when 'infused with value', subjecting newcomers to a 'socialization' process that ultimately led to their indoctrination (i.e. identification and internalization with an establishment) (Powell and DiMaggio 1991: 15). Neoinstitutionalists differ on this account, arguing that institutions are not made of 'norms and values but taken-for-granted scripts, rules, and classifications'. They are 'macrolevel abstractions, rationalized and impersonal prescriptions', rather than concrete organizations eliciting commitment (ibid.). In this regard, the organization and the actors within them are infused with institutionalized geographies of practice. These geographies, which imply functionally differentiated spheres of interactivity, will be apparent in the distinctions between an organization's defined systems of interactions and their environment of other complementary and incompatible interactivity. Accordingly, the relational space of an organization in time may be understood as 'two sides of a distinction' (Gren and Zierhofer 2003: 629), thereby illuminating functionally differentiated albeit often 'taken-for-granted scripts, rules, and classifications' (cf. also Secs. 1.3.2 and 3.3.1 for elaboration).

2.3.1a Points of Divergence

Divergences among the different institutionalisms are identified along the definitional lines that each appropriates to institutions, the weight given to individual preferences or collective action as the lead causes of institutional outcomes, and, finally, institutional efficiency and change (Powell and DiMaggio 1991: 7-11).

For the positive theorists of political science institutionalism (rational/choice and game theoretic), the institution is an organizing framework of rules and procedures. In neoinstitutionalist economics, they are the (efficient) product of repetitive interactions, particularly from economic historian points of view (North 1990). From the standpoint of organizational economics, institutions are governance structures and social arrangements that help to minimize cost (Williamson 1985).

Whereas institutionalism in economics and public choice view institutions as the outcomes of purposive, instrumentally-oriented individual action, regime and organization theory do not

view them as products of conscious human design, while carefully not discounting human activity altogether. Organized life is not explicable by sole reference to individual action or maximizing actors, it considers the taken-for-granted quality of the institution and its self sustaining reproduction within political and economic structures. Furthermore, sociologists and organization theorists distinguish convention from mere conveniences, while economists and political scientists will treat them similarly. Organizational theorists are more restrictive in this respect: only certain conventions qualify (Powell and DiMaggio 1991: 9).

The second line of divergence is attributed to the weight given to individual preferences or collective action as the lead causes of institutional outcomes. Where do preferences come from? What are the feedback mechanisms between interests and institutions? What are the constraints on actors' alternatives? And can these preferences be properly understood outside their historical and cultural contexts?

The thrust of neoinstitutionalist economics and public choice (positive theory) approaches views institutional arrangements as 'adaptive solutions to problems of opportunism, imperfect or asymmetric information, and costly monitoring' (ibid.). This contradicts the views of sociologists and organization theorists adopted in this investigation: Organizations and the agents within them do not choose freely between institutions, customs, norms and legal procedures. In other words, organization theorists suggest they act in accordance to 'rules of appropriateness', seeking guidance from comparable situations in time (e.g. particular events and perceived trends) and standards of obligation:

> 'People in different societies or institutional domains, at different times, hold varying assumption about the interests that motivate legitimate action, the auspices under which persons or collectives may act, and the forms of action that are appropriate' (Powell and DiMaggio 1991: 10).

The following investigation explores what has determined differing agent perceptions of change events and why. It seeks to elucidate the probable links between the communications or storylines of these actors, and the practice of their knowledge or experience of industry-regional transformation as functionally differentiated or structure-determined agent choreographies of action/response to change. *How are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation*?

This divergence over 'preferences' and its link to institutional outcomes advances a third and final break among the different institutionalisms in organizational analysis, which concerns institutional efficiency and change. Political science institutionalism and neoinstitutionalist economics both recognize that institutional arrangements can render certain choices unviable, restrict alternative courses of action and even restrain the patterns of resource allocation (Powell and DiMaggio, 1991: 10). Organization theorists agree that institutionalized structures and behaviours will be slower to change than non-institutionalized entities. Sociologists even concur with rational-choice theorists that physical sunk costs restrict

institutional inertia. But it is suggested that oftentimes individuals lack the ability to conceive alternatives: 'institutions do not just constrain options; they establish the very criteria by which people discover their preferences. In other words, some of the most important sunk costs are cognitive' (ibid: 11; see also Boschma 2005 on 'cognitive proximity' and lock-in effects in Sec. 3.3.1). In fact, the change in organizations, whose social arrangements are 'buttressed' by institutional regimes, will be more likely dramatic and episodic, as opposed to incremental, in their response to institutional change at the macro level.

Again, the approach to change diverges between the disciplinary schools of institutionalism. Whereas economists and political scientists offer functional explanations of institutional solutions to the 'problems of governance', organization theorists focus on the actual processes by which solutions have been sought. Together these lines of contention imply a broader discussion on change, agency and multijurisdictional environments, which is explored in the following and subsequent chapters.

2.4 CONCLUSION: INNOVATION, SYSTEMS AND SPATIAL JUSTICE

What does a successful innovation diffusion process suggest for development? The above chapter begins with a discussion of innovativeness and concerns with a call for an attention to the 'particular'. This discussion is subsequently taken forward in discussion of multiple institutionalisms in organizational analysis, especially highlighting organizational 'preferences' and its link to institutional outcomes. There is a key issue here for the remaining discussion chapters and for the argument of this investigation primarily, which concerns spatial justice. What is a 'suitable' or spatially just territorial impact when considering 'growth pains' from factory closures and subsequent increases in unemployment, and its debilitating social and economic implications for local and regional forms of development? Should justice be associated with a particular kind of local or regional development? If not, what future implications might this have for researching the 'region' as a geographical entity 'constituted by spatialized social relations stretched over space and manifest in material, discursive and symbolic forms' (Pike *et al.* 2007: 1144)?

There is an indispensible spatial and temporal dimension to the cognitive-frames of agent interactivity whereby an organization is not only an object constitutive of the processes of human interaction (relational) within institutionalized power-pervasive environments (institutional) but also a subject (or observer) of its own environment through a self-applied awareness (embodied) of routine acts, inefficiencies, desired norms and injustices. This would seem to suggest that the space of industry-regional transformation or the relational space of agent systems of interaction is ultimately bound up in a history of social and economic

struggle. But what does the knowledge-meaning appropriated to past experiences of industry transformation by individual agents ('storyteller') reveal about the behavioural or institutional aspects of this agent-interactivity?

A consideration of these exploratory questions might begin to consider the scientific explanation of the *necessary* (*i.e.*, agent interests) and the *contingent* means (*i.e.*, potential of agent influence) through which innovation is generated and diffused, and ultimately seen to have an impact on economic development (competitiveness), individual welfare or social cohesion. In this way, the epistemological argument is established in the alleged ways 'knowledge' of a current state of 'reality' is reflected in agent interests and their potential to shape or to have an influence on a given state of industry re-structuring processes. That is, how agents draw the links between their strategic decisions or programmes and their individual experience of change in the space of industry-regional transformation, and how they use this experiential knowledge to suit their organizational concerns with, and to sustain their influence over the process of such transformation (cf. Table 4.2). This attention to the underpinning ontological and epistemological claims of agent-environment interactivity, as already discussed in Chapter 1, is taken further in the following discussion of Chapter 3.

Chapter 3 ‘Change’, Agency and Multi-jurisdictional Environments

3.1 INTRODUCTION

Previous chapters have argued for an organizational analysis of industry-regional transformation or an agent-centred approach to the following investigation, which owes the process of that transformation to any number of individuals, events and institutions (Le Goff 1978, Le Goff and Nora 1985, cf. Chapter 2, Chapter 4 for discussion of ‘critical realism’). In this regard, organizations are understood to be ‘social units’ within institutionalized geographies of practice. And, accordingly, such agent-centred approaches essentially develop aspects that may equate to the study *of* institutions (cf. Sec. 2.3.1 on new institutionalisms in organizational analysis). Thus the following adopted agent-centred approach to this investigation has been a study of organizations and their operational sphere of institutionalized practices, as distinct from their environment of complementary and incompatible agent activity, and their interactions with other organizations – without discounting the role of individual action and powers that are often conflated with organizational activities.

What implications might this have for the study of complex social systems, such as ‘innovation systems’? Following Luhmann, Gren and Zierhofer (2003: 626) note that ‘most social systems and organizations, in particular, depend on a very specific coordination of psychic systems [cognitive frames/consciousness], organisms [individuals] and other entities’, such as technology-mediated communication, for these purposes. In this regard, organizations are the structures through which institutions are revealed. In other words, institutions are revealed through agent observations that make ‘distinctions’ between the operational sphere of an organization and its interactivity with an environment of complementary or incompatible organizational activity.

Firstly, in this regard, the following investigation has acknowledged that the space of industry-regional transformation over which social relations are stretched may be conceived as ‘two sides of a distinction’ (Gren and Zierhofer 2003: 629). In turn, these distinctions may reveal institutions of ‘taken-for-granted scripts, rules, and classifications’ across functionally differentiated cognitive spaces of agency. Secondly, as concerns the abovementioned agent-centred focus, this investigation has rejected the space of a system as an a priori social entity in favour of an internally fragmented and contingent space that is shared with the differing codes, norms or programmes of other organizations and their respective interaction systems. Following Luhmann (1995) once more, organisations are ‘*defined* networks of communications and programs. They [organizations] provide a functional structure for communications, which is set up to achieve certain aims and to fulfil specific purposes’ (Gren and Zierhofer 2003: 618).

This functional differentiation would be consistent with the neofunctionalist characteristics of technoeconomic 'innovation systems' (cf. Carlsson 2002, Cooke *et al*. 2004 [Braczyk *et al.* 1998] among others). But Luhmann (1995, later elaborated) offers a biological interpretation of systems as *autopoietic*, whereby systems[12] are open by way of reactions to their environment yet distinct from it (later elaborated); that is, self-producing and self-referential and thus operationally closed notwithstanding the central features of such systems as open and complex. More importantly, however, this conceptualization is part and parcel of a complex articulation of the co-placement of multiple systems. In this regard, the autopoiesis of social technoeconomic innovation systems would infer that the unit of analysis centres itself on the organization as an autopoietic system of face-to-face interactions (i.e. the co-placement of multiple and differing 'psychic systems' or cognitive-frames) as well as an essential part of wider albeit defined networks of communications within and between these systems.

Accordingly, for example, multiple organizations and their respective systems of interactions may have a stakeholder interest in an organization, such as the firm. Whilst the firm may be seen as a mutually constitutive component of a technoeconomic innovation system, this should not discount the probable links between the firm and other stakeholder interests, such as workforce welfare and workplace safety. In effect, this example is suggestive of an organization (firm) that may be open by way of interaction or reaction to its environment of stakeholder interests yet distinct from it; that is, a self-producing and self-referential social unit, and thus operationally closed despite its infusion in multiple institutionalized geographies of practice.

Furthermore, this abstract example also suggests that the role of individual action and powers is not discounted or conflated with the activities of the organization by stressing the co-placement of multiple and differing 'psychic systems' or cognitive-frames in face-to-face interactions through which the organization-firm selectively reacts to its environment or particular stakeholder interests. Clearly, there is an issue here with boundaries and the inclusion/exclusion of particular actors as already mentioned. Whereby, such actors may include organizations external to the operational sphere of the design/production interactivity of firms, yet with a stakeholder interest in those operations. Hence how would such studies account for multiple differing stakeholders *within* one organization such as the firm? And with particular regard for the path-dependent trajectories of technoeconomic innovation-informed transformation, what becomes of the particularities of marginal innovation practices, or those firms that do not exhibit innovation potential or a contribution to the innovativeness of the system (cf. Chapter 2)?

[12] cf. Figure 3.1 for the placement of social systems [interactions, organizations, societies] among organic systems [individuals], psychic systems [cognitive-frames/consciousness] allopoietic systems [machines]).

The following chapter is organized in two distinct sections. Section 3.2 takes the previous discussion on new institutionalisms in organizational analysis (cf. Chapter 2) and articulates some further distinctions between institutions and organizations from a particular institutionalist perspective (Edquist and And Johnson 1997). In the context of innovation systems, this opening discussion of institution taxonomies and agents of change offers an 'institution-centred' explanation for juxtaposition with, and subsequent reinforcement of an 'agent-centred' one (Clark *et al.* 2002). Both explanations recognize the constraints that institutions impose on human agency, whilst acknowledging that they are simultaneously the products of human agency in the generation, exchange and use of innovation. But they are distinct in so far as their point of theoretical departure. Whereas the former institution-centred explanation draws on institutional economics, the latter explicitly draws on a long tradition of thinking in behavioural economics and psychology. Thus, the agent-centred explanation emphasizes individual human cognition whereby the powers of agency are not subordinated necessarily by any institution's ability to constrain or enable human action (cf. also Cumbers 2003).

Section 3.3 draws particular attention to the spatiality of learning and interaction. And in doing so it draws attention to differing agents' practice of *self regulation* and *task representation*, which may be evident in the shared ways of ascribing meaning and response to socioeconomic circumstances. Namely, this may imply distinct cognitive spaces of agency evident in the differing and shared knowledge of appropriate responses to change through the identification of tasks or task representation at particular points in time and space. Or this may entail the identification of distinctions between an organization's self regulating institutionalization of suitable practices, and the institutional norms of other organizations competing for legitimacy. *What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation*? In other words, how is the consciousness or cognitive frames of individuals' experiences and organizations' collective knowledge of industry-regional transformation tied up with the symbolic structures of knowledge or the 'cognitive rules' (including value / belief systems) that enable and constrain agents' interpretation of the world in particular ways (Scott 2001[1995], cf. also Scott 2008)? And can the cognitive-symbolic structures of agents' experiential knowledge also be reflected in the 'normative' (informal) and formal 'institutional' rules (ibid.), which discern what socioeconomic and environmental desires ought to be considered desirable and what norms ought to be considered legitimate?

3.2 INSTITUTION TAXONOMIES AND AGENTS OF CHANGE

The departure from the rational *homo economicus* has been evidenced by continuous efforts to grapple with the interaction of observed behaviour and its environments. In the passage from neo-classical economic thought, which assumed the rules of the game to be a given set of exogenously determined parameters, has been an increasing emphasis on the role of institutions in economic performance (Edquist and Johnson 1997: 43-46). But this growing appreciation of institutionalized behaviour and its affects on the subject of study has undergone much interpretation. Edquist and Johnson (1997: 41-63) take particular attention to this resulting vagueness in the general use of the term *institution* and its interchange with that of *organization.* The authors make explicit the necessary distinction that is required between the two terms with the aim of not only simply clarifying the concept of the institution but more importantly its role in systems of innovation. The reason for their distinction is held to their different roles in the innovation process and that the relations between them are rich and complex, and warrant further investigation. And in arguing so, they reassert their broad observations of the nature of technological innovation by illustrating that the relevance of institutions lies in its interaction with organizations for the study of innovation systems as opposed to the sole recognition of institutional influences over interactive learning and cumulative processes of innovation.

Technology is knowledge. That is, 'technological innovation […] is the introduction into the economy of new knowledge or new combinations of existing knowledge' (ibid: 42). And this process is only possible through interactive learning processes that occur within firms, between firms and between firms and their customers or public agencies (later elaborated). This notion of innovation also has a cumulative dimension whereby its evolutionary or cumulative nature is evidenced in the different trajectories; that is, its diffusion across space and time (cf. Chapter 2). The notions of both interactive learning and cumulative – evolutionary development, according to the authors, are conditioned by the 'institutional set-up' of the innovation system. In the remaining sections of their chapter they conclude and defend that 'institutions by their very nature affect interactions between people and the habits which partly constitute the cumulativeness of learning processes' (ibid: 42).

In an effort to help instigate likely taxonomies of institutions, Edquist and Johnson (1997) group them into heuristic categories: 'formal' and 'informal', 'basic' and 'supporting', and 'hard' and 'soft' (ibid: 50). Whereas the 'formal' category or those institutions of a more 'visible' and 'codified' nature include patent laws, banking systems or government regulations of bank conduct, the 'informal' constitute more implicit environments observable in the nature of common laws, traditions, and work norms and routines. In the second grouping, the 'basic' form of institutions sets the ground rules whereby certain aspects for which 'supporting' institutions define and specify. Finally, while 'hard' institutions are '[rule] binding' and

thereby require regulatory control, 'soft' institutions are evidenced in the more 'rule of thumb' or advisory communication. But considerations of institutional change have implications for each of these distinct groupings as well because the complementarity of each of the pairs is concerned. For instance, whereas the 'formal' is subject to a process of strategic policy-determined change, the 'informal' is claimed to be the result of spontaneous or random acts. Though, as the authors point out, 'formal institutions cannot be designed without taking the evolution of informal institutions into account' (ibid: 57).

In this vein Edquist and Johnson (1997) maintain that institutions are 'things that pattern [economic] behaviour' (ibid: 43-46, cf. Amin 2001). And in doing so, they look to American institutionalism and the 'classical' essence of the term institution founded in the early ('critical' or 'old') institutional economics works credited to Thorstein Veblen[13] and later neoinstitutional works by Oliver Williamson (1975, cf. also 1985) and Douglas North (cf. 1990) for support. Veblen's criticism of the neo-classical economic and rational man scrutinized the claims to an 'institutionally unaffected *homo economicus*' (Edquist and Johnson 1997: 44). The later works by Williamson and North follow this line of thought by addressing the study of institutions from a transaction costs and historical perspective respectively, which Edquist and Johnson use to help secure the relevance of institutions and their functional roles in relation to innovation (ibid: 51-55). Whilst Williamson's transaction costs perspective offers Edquist and Johnson (1997) a theoretical angle for explicating the 'binding' nature of institutions (e.g. sunken costs), the historical perspective helps set the parameters for empirically deduced observations of the relation between innovation and institutions over time. They also briefly discuss the game-theoretic work of Schotter (1981, on the 'economic theory of social institutions') to again reemphasize the relevant role of institutions in systems of innovation as 'gatherers of information' and their affect on the reduction of uncertainty. The following phrase from North seems to be suggestive of all of the above three perspectives as well as to have been an influencing factor in the author's personal definition of institutions and organizations, below.

> Institutions are the rules of the game in society or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentive in human exchange, whether political, social or economic. Institutional change shapes the way societies evolve through time and hence is the key to understanding historical change (North 1990: 3).
> A crucial distinction […] is made between institutions and organizations. Conceptually, what must be clearly differentiated are the rules from the players. The purpose of the rules is to define the way the game is played. But the objective […] is to win the game - by a combination of skills, strategy and co-ordination; by fair means and sometimes by foul means […] (North, 1990: 5).

In concluding, Edquist and Johnson (1997) maintain that interactive learning links institutions to innovation as far as the 'classical' essence of the above term institution is concerned. In line with North's assertions, they maintain that organizations are made distinct from institutions by

[13] cf. Veblen (1965[1904]) in *The Theory of Business Enterprise* for critique of the misuse of industrial infrastructure for profit

observing their greater degree of 'concreteness'; '[…] organizations […] are partly formed by the institutional framework and are at the same time, vehicles for their change' (ibid: 43, 47). That is, organizations are the 'players' and institutions are the 'rules' by which they play, illustrating how important it is to understand the nature of this interaction and its influence on the process of institutional change. So much so that the authors 'make this distinction and do not subsume one entity to the other' (ibid: 57). As the authors so aptly put it '[organizations] are strongly influenced, coloured and shaped by institutions' (ibid: 59). 'But institutions are also 'embedded' in organizations' just as well as the task of organizations may be 'a matter of creating institutions' (ibid: 59, 60). Finally, the authors' general stance on the relations between institutions and organizations is echoed in their view of its relationship to the market. The fundamental point raised here argues that market-facilitated exchange is not limited to price and product quantity factors. Rather it is maintained that the formal and informal institutional makeup of webs of routines, rules, norms and laws both enable *and* constrain market exchanges (ibid: 48, cf. 'transactions costs'). In light of the above claims, Edquist and Johnson (1997) suggest the following definitions:

> Institutions in the sense of patterned behaviour are viewed as sets of common habits, routines, established practices, rules, or laws that regulate the relations and interactions between individuals and groups (ibid: 46).
> Organizations [and the individuals within them] are formal structures with an explicit purpose and they are consciously created. They are players or actors […] Organizations are vehicles for change; the players follow the rules but they also influence them (ibid: 47).

However, it is clearly apparent that the role of individual agency and cognition is explicitly unaccounted for throughout the supporting discussion before and after the authors' definitions of institutions and organizations. Though, following the traditions of new institutional economics it is evidently clear that the bounded rationality of the self-interested figure of the '*homo economicus*' - whereby social order is the combined product of individual self-interests. How is this relational space of agent interactivity bound up in a history of social and economic struggle?[14] The authors' only mention in this regard states that:

> In addition to technical innovation, other factors behind institutional and organizational innovation may concern conflicts revolving around political and social relations and income and power distribution (p. 56)

Not much else is offered in this vein other than the apparent fact that 'other forces' impart an exogenous influence on institutional and organizational change. Following Luhmann (1995) once again, institutions may reveal themselves in organizations' application of 'distinctions' between their operational sphere of agent-interactivity and an environment of other complementary or incompatible activity. Whilst these 'other factors' may not have a direct line of influence over the regulatory institutions of the distribution of State funding or market mechanisms such as price-setting, they may shape the institutions of social norms or the shared

[14] cf. early institutional economists Veblen (2007[1899]) in *The Theory of the Leisure Class* for consumerism and the inefficiencies of capitalism, and Galbraith (1998[1958]) in *The Affluent Society* for wealth and divergent interests from the common good.

knowledge of appropriate responses to change at particular points in time and space (i.e. an institutionalization of practice). More importantly, the same events may well justify or legitimate the codes and programmes of different organizations. For instance whereas the industrial restructuring effects of rising unemployment numbers may present a situation *contingent* on the organizational capacity of firms to increase innovativeness not to mention an acknowledgement of technological change and its consequential albeit *necessary* capital-labour substitution, the same events also may present the need among other organizations to reinforce workforce training and welfare programmes at odds with the economic rationale or 'conventional wisdom' of some industry leaders. In other words, could these 'other factors' or event-situations motivate particular agent distinctions between an agent's operational sphere and its environment of complementary and incompatible agent activity, which reveals the shared knowledge of appropriate responses to change at particular points in time and space, or which in effect reveals an institutionalization of social norms that enables the communication of a socially desirable or shared way of ascribing meaning to socioeconomic circumstances as distinct from differing norms vying for legitimacy?

Edquist and Johnson (1997) have heuristically justified the interrelationship between institutions and organizations and the means upon which to do so by distinguishing the two terms as well as instigating likely taxonomies of institutions. Whereas the above institution-centred discussion of the difference between institutions and organizations has drawn on institutional economics, the following agent-centred explanation explicitly draws on a long tradition of thinking in behavioural economics and psychology. The latter agent-centred explanation emphasizes individual human cognition whereby the powers of agency are not subordinated necessarily by any institution's ability to constrain or enable human action. Furthermore, whilst Edquist and Johnson (ibid) do not necessarily refute this notion, it remains to be seen to what extent such agent-based explanations can effectively address individual experiences of past events over time, and how the knowledge-meaning attributed to these experiences (cognitive-frames) may be institutionally reproduced and modified through the practice of agents' knowledge or experience of such events.

3.2.1 Agent v. Institution-centred Explanations

The following section offers a convincingly different view on the self-interested figure of the *homo-economicus*. While following a long tradition of thinking associated with the Carnegie School of thought, Clark *et al*. (2002) suggest an agent-centred perspective for the comparative study of innovation and economic performance. The agent-centred perspective is assessed along with three other approaches, which include a theory-centred, a case-centred and an institution-centred perspective. Each of the perspectives brings with them a host of

assumptions that result in obvious strengths and weaknesses (ibid: 270-1). The research investigation herein is not a comparative study. Though, the following brief discussion of the different perspectives does offer some insight to the established approaches to innovation and economic performance research. Nevertheless, the object of this section will be to discern the agent-centred perspective from the above fundamentally institution-centred explanation of institutions and organizations by Edquist and Johnson (1997). Therefore, despite the distinct differences between each of the four perspectives or methods of comparative study, the emphasis will remain on distinguishing the agent- and institution-centred perspectives. Let it be said again, however, that each of the perspectives are heuristic models for analysis rather than actual theories of investigation. As will be seen, there can be a degree of overlap between perspectives.

The theory-centred perspective implicitly assumes human behaviour as rational and predictable by way of its application of 'laws' of human behaviour to different settings for the purpose of establishing common truths. It makes for controlled variables in statistical and econometric study, but, in the process of doing so, it administers a static view of institutional change that fails to account for social conflict and an agent's perception of change during the transformation process. Thus it oversimplifies human behaviour and cognition (Clark *et al*. 2002: 265-6).

The case-centred perspective assumes that society is far too complex to be fully understood (cf. Luhmann 1997). In this light it is understood that all knowledge is situated, allowing for 'profound and persistent differences between countries and regions' that are best observed through a process of mutual learning with the subject of study. Rational behaviour is thus 'relative and socially constructed'. While the approach is able to account for 'local' phenomena by studying it in its 'natural' setting and giving different interpretations of common concepts equal weight, it can only partly explain institutional change and the complex socioeconomic environments within which it takes place (ibid: 266-7).

The institution-centred perspective exhibits some resemblance to the case made for institutions and organizations in the section above. It is apparent that, despite the reciprocal interrelationship between organizations and institutions, the powers of agency are not accounted for *within* organizations. Institutionalism has its many strands (cf. Powell and DiMaggio 1991, Sec. 2.3.1). Though, generally, the world is understood as a consequence of society's different social, economic and political structures, providing the necessary signals or contingent contexts for agent's decision-making. This supposes that institutions are the principal structures ('rules' or 'boundaries') by which agents make choices and shape change. In doing so, human behaviour is implicitly taken to be 'essentially rational and predictable'. But this approach is partial at best. While institutions are fundamental to socioeconomic development, regulating as well as advising different kinds of behaviour and leveraging other kinds through incentives, it is unable to account for the diversity of human behaviour and

cognition, and its role in the formation of institutions. In the case made for institutions and organizations in the section above, agency is needlessly subsumed to organizations (ibid: 267-8).

Of course, the contrasting agent-centred perspective does recognize that rational agent behaviour is 'bounded' not only by the institutional frameworks that delimit and enable action through social, informational and financial resources, but individual interests, history and geography as well (cf. Douglas 1986 who argues thinking requires institutions). And like the case-centred perspective, the agent-centred model accounts for different interpretations and perceptions of common concepts or phenomena such as the notion of change in the space of industry-regional transformation. Though, an agent-centred perspective may 'idealize choice and strategy and the significance of agency'. And in consideration of this model's roots in Western thought, it also may take social frameworks to be a given when, in fact, they are not as developed as assumed that they would be (Clark *et al*. 2002: 280).

Furthermore, whilst the key strength of an agent-centred model is its recognition of the importance of agency and structure in the study of human behaviour, it remains unclear how this stress on the mutual constitution of agency and structure treats the relations 'internal/necessary' to agents' operational sphere of *task representation* – as distinct from the 'external/contingent' relations of their environment to which they may be open and reflexive (cf. Danermark 1997, Chapter 4 for a critical realist underpinning of the approach to this investigation). Agents are conscious and intentional beings and they do possess the ability to 'learn' (elaborated below); they are creative and continuously engaged in sense-making (Weick 1979[1969], 1995, cf. also Weick 2001, 2009). But more importantly, in contrast to the above twofold understanding of the self-interested figure of the homo economicus, and the norm-following and role-playing actor of the homo sociologicus, the remaining challenge will be an ability to explain and understand agency (practice - actions) by recording how the consciousness or cognitive-frames of individuals' experiences and organizations' collective knowledge is tied up with the 'cognitive rules' (value / belief systems) of one's social sphere of *self regulation*, which may enable or constrain agents' interpretation of the world in particular ways (Scott 1995). Can the cognitive-symbolic structures of agents' experiential knowledge of particular events also be reflected in the normative (informal) and formal institutional rules (ibid.) discerning which socioeconomic and environmental desires ought to be considered desirable and which norms ought to be considered legitimate?

Thus, it is apparent that the latter two perspectives on institution- and agent-centred explanations are loosely interwoven. And effectively what one has is recognition of individual human behaviour (not accounted for in the institution-centred approach) together with the case made for the interaction of organizations and institutions by Edquist and Johnson (1997). Whereas institution-centred research identifies norms or 'patterned behaviour' (ibid: 46) in an effort to codify regularized social behaviour, the agent-centred perspective sees it through

'cognitive processes which require deliberation' (Clark and Tracey 2004: 98, cf. also Boschma 2005). In other words, 'agents can and do challenge institutional structures'; that is, 'conscious beings that have the capacity to think, learn, act and interact' (Clark *et al*. 2002: 274) – '*an ability to coordinate one's action with others and against others, to form collective projects, to persuade, to coerce, and to monitor the simultaneous effects of one's own and other's activities*' (Sewell 1992: 21, emphasis added). Lastly, Clark *et al*. (cf. also Clark and Tracey 2004: 34) stress that the main difference between the two approaches is the 'issue of 'autonomy' / 'flexibility' (Clark *et al.* 2002: 275-6); that is, an option to walk away from institutional imperatives. Yet whilst echoing the abovementioned later works of institutional economics, the authors treat institutions as the 'resource endowments' that provide agents with 'the capital or resources (physical, social and intellectual) to operate in the world at large' (2002: 275).

The Luhmannian perspective (1995, elaborated below) of organizations as autopoietic systems may offer some additional insight to the abovementioned reflexive agent-environment interaction: of the mutual constitution of a system, and the relationships and attributes of its components to the degree of understanding that suggests systems are complex and open social constructs in time and space – yet functionally differentiated or operationally closed; that is, self-producing and self-referential. In fact, consider the following supporting example where:

> Entrepreneurs' imagination and capacity for innovation is so tightly structured that their options are *derived* from their contexts rather than developed either through interaction or complete independence from those contexts [or environments] (Clark and Tracey 2004: 6, emphasis added).

In this example the 'golden rule' in rationalist thought would claim that 'all people act according to their best interests and, in doing so, are rational in the sense that they choose the best or optimal course of action most consistent with their goals' (Clark and Tracey 2004: 7). The well recognized fact that non-rational behaviour is more common than often assumed has led Clark and Tracey (2004) to consider a 'counter golden-rule'. This alternative standpoint considers the possible links between economic decision-making and different combinations of *access* (cf. Gren and Zierhofer 2003, elaborated below) to resources, institutional support and the cognitive capacity to harness these social and economic factors and surpass others.

But the agent-centred explanation is centred on the economic agent, acting on bounded rationality, and strategic utility-sufficing behaviour. How might one begin to unearth the complementary and incompatible systems of interactions across multiple industry and regional actors? And might this in turn suggest a space of industry-regional transformation or a relational space of agent interactivity historically bound to institutions of social and economic struggle? In this way, concerns with the differing cognitive spaces of agency within the space of industry-regional transformation would require that the organization and the agents within them is not only understood to be an object constitutive of the processes of human interaction (relational) within institutionalized power-pervasive environments (institutional) but also a

subject (or observer) of its own environment through a self-applied awareness (embodied) of routine acts, inefficiencies, desired norms and injustices.

3.3 AGENT-ENVIRONMENT INTERACTIVITY: SELF REGULATION AND TASK REPRESENTATION IN MULTIJURISDICTIONAL ENVIRONMENTS

The following section begins by re-examining the 'particular' (cf. Chapter 2) with a focus on 'learning'. It subsequently closes with an elaboration of autopoietic-systems theory (Luhman 1995, 1998) and cognitive spaces of agent-environment interactivity. Luhmann does not offer an elaborate notion of 'space' (i.e. the corporeality and spatiality of communication, cf. Somers 1994, 1998; Boden 1994) – apart from references to physical locations and distances. For Luhmann, the human individual is part and parcel of organic (individuals), psychic and social systems; they are the carriers of psychic (cognitive-frames) and social systems, offering infinite possibilities for analyzing the 'social' (organizations, interactions and societies) as structured communication. In other words, 'social systems exist only as the autopoiesis of communication' (Gren and Zierhofer 2003: 629) or communications shaped by other communications (Luhmann 1989: 7). But Gren and Zierhofer stress that 'organizations rely on *systems of accessibility* [emphasis added] and […] involve a specific coordination of social, psychic, organic, and allopoietic systems'. In this regard 'accessibility systems' are not '*autopoietic systems* [emphasis added] as such, but only their form of coordination' (2003: 626).

This investigation aims to elucidate the probable links between the communications or storylines of multiple actors, and the practice of their knowledge or experience of industry-regional transformation as functionally differentiated or structure-determined agent choreographies of action/response to change. On the back of this objective, the remaining chapters to this dissertation will take departure from the above line of argument by Gren and Zierhofer who have redressed the Luhmannian autopoietic-systems theory, demonstrating its potential further development as the '*geography* of autopoietic systems', and accordingly offering 'a conception of space as the possibility of [agents] drawing distinctions' between an operational sphere of agent interactions and its environment (or agent-environment interactivity), and the analytical focus on organizations and their efforts to coordinate such interactivity (ibid: 629, emphasis added, cf. also Chapter 4 for elaboration).

3.3.1 Spatialities of Learning in Industry and Innovation Dynamics

The above appreciation of social systems contradicts several conceptualizations of industry innovation dynamics for which the 'system', as a unit of analysis, is 'a set of interrelated

components working toward a *common* objective' (Carlsson *et. al.* 2002: 234). Whereby the components are constitutive of the system and the system is constitutive of the relationships and attributes of its components. A key concern with these knowledge-production systems has been the methodological challenge of identifying the existence of 'tacit'[15] (informal–know how, skills and competencies) knowledge and its effects in increased innovativeness, competitiveness and territorial development (cf. Chapter 2). Such systems conceptualizations of industry and innovation dynamics include among others 'innovation systems' (Freeman 1988, Lundvall 1992, Cooke *et. al.* 2004[Braczyk *et. al.*, 1998]), 'systems of accumulation' (Clark and Tracey 2004), 'sectoral [innovation] systems' (Malerba 2004), 'technological [innovation] systems' (Carlsson 1995, 1997), 'spatial [technological innovation] systems' (Conti *et al.* 1995, Oinas and Malecki 2002) and 'multi-level systems' [MLS] of socio-technical transitions (Geels 2002, Geels 2005). Whilst these systems conceptualizations have come to embrace the multi-level and cross-scalar nature of associated agent interactivity, they remain systems 'of interrelated components working toward a *common* [functionalist] objective' (Carlsson *et. al.* 2002: 234, cf. Table 3.1), notwithstanding recent counterclaims by some systems theorists (cf. for example Smith *et al.* 2005, and Geels and Schot 2007 who maintain the MLS approach is appreciative of conflict).

[15] Tacit knowledge is contrasted with 'codified' knowledge – know what – whereby information is appropriated meaning in the form of shared or distributed guidelines, manuals and reports etc.; tacit knowledge to the contrary remains inseparable from the individual and collective work practices from which it is generated.

Table 3.1 Conceptualizing industry and innovation dynamics

Concept	Author(s)	Characteristics of conceptualization	Spatiality
Input/output analyses	Leontief (1941)	Static	one-way' flows
'development blocks' and industrial transformation	Dahmén in Carlsson *et al*.(1991)	Dynamic, disaggregated	Introduces 'disequilibrium'†
Porter's "diamond"	Porter (1998)	Dynamic, static-comparative	Industry and market focus
National Innovation Systems (NIS)	Freeman and Lundvall (1988), Lundvall (1992)	Dynamic, empircally static due to its complexity	Moves beyond the firm and industry focus
Regional Innovation Systems (RIS)	Braczyk *et al*. (1998); cf. de la Mothe (1998)		
Local and regional industrial systems	Saxenian (1994)	Dynamic	Geographically defined industry focus
Multi-level systems of innovation	Kaiser and Prange (2004)	Dynamic	Multiple levels of innovation
Sectoral systems of innovation	Malerba (2002, 2004)	Dynamic	Industry and technology regime focus
National sectoral systems innovation	Oosterwijk (2003)		
Technological systems of innovation	Carlsson *et al.*(2002)	Dynamic, disaggregated	Multiple levels of technological development
Socio-technical systems	Geels (2002, 2005); cf. also Geels and Schot (2007) and Geels (2010, 2004)	Dynamic, disaggregated	Multi-level systems perspective on socio-technical transitions (to sustainability)

Source: Author's Elaboration, Carlsson et al. 2002

Note: † moving beyond institutions as temporary moments on the their way to efficient equilibrium solutions

Additionally, on an epistemological level, the debates that have surrounded 'Mode 2' knowledge diffusion have brought about an increasingly more sophisticated conceptualization of knowledge diffusion within knowledge-production systems, such as 'innovation systems'. In fact, in recent years, new insights have evolved on the sympathetic critiques of the generalization of 'knowledge' and 'learning' (Hudson 1999) – from 'seamless innovation processes' to the conflation of its networks with economic success and renewal, nationally (cf. Lundvall 1992, 1995 on the 'learning firm' in a 'learning economy') and regionally (cf. Morgan 1997 and Simmie 1997 on the 'learning region', see also Cooke and Piccaluga 2006 on regional development in the 'knowledge economy').

A particular view in this regard recognizes the growing diversity of transdisciplinary, problem-focused and context-driven knowledge production or 'Mode 2' knowledge (Gibbons 1994, Nowotny *et al.* 2001) across specialist research centres and fixed-term partnerships.

However, this ‘Mode 2’ conceptualization of knowledge production is not new in the view of some science/research knowledge theorists, namely the architects of the ‘triple-helix’ of university-industry-government knowledge production, Loet Leydesdorff and Henry Etzkowitz, who claim there was never a 'Mode 1' (Etzkowitz and Leydesdorff 2000, Leydesdorff and Etzkowitz 1996).

'Mode 2' theorists rebuke this claim, reasoning that a ‘Mode 1’ category has emerged by default to suggest social structures of traditional university-industry-government knowledge production do not capture the complexity/diversity of trans-border dynamics of ‘Mode 2’ knowledge production. In response, Etzkowitz and Leydesdorff (2000) stress that the ‘triple-helix’ mode of production is instead a conceptual construct or 'overlay' for the explanation of ‘Mode 2’ knowledge production forms/processes (ibid. 2000: 116). Nevertheless, the evolution of ‘Mode 2’ must be recognized for its contribution to an increasingly more sophisticated conceptualization of "knowledge flows" (Sec. 2.2.1a on innovation diffusion, cf. also Bathelt *et al.* 2004 on ‘global pipelines’, and Cooke 2005 on ‘Globalisation 2’), including concerns with ‘knowledge asymmetries’ (cf. De La Mothe 2003).

Most importantly, this recognition of the increasingly more sophisticated conceptualization of knowledge and learning has broken with ‘scalar envelope’ interpretations of knowledge-production systems of innovation as nested sub-systems of self-contained/self-regulated territorial knowledge capabilities (cf. Doloreux and Parto 2003, Kaiser and Prange 2004). That is, the internal structures and processes of these systems are taken to be social relations stretched over space and extending beyond their implied geographical boundaries (cf. Oinas and Malecki 2002, Geels 2004). However, as Hudson aptly stresses: ‘*Learning is by no means a guarantee of economic success. Still less is it a universal panacea to the problems of sociospatial inequality and in some respects is used to cloak behind which some of the harsher realities can be hidden*’ (1999: 70). Moreover, as already discussed at some length in Chapter 2 (cf. Sec. 2.2.1) on the particularities of marginal innovation practices (Berglund 2004), one must recognize the asymmetric relationship between different types of knowledge (cf. also de la Mothe 2003). Hudson adds that an acknowledgement of knowledge as ‘tacit’:

> ‘[P]roblematizes its communication and transmission to others who lack access to the unwritten codes of meaning in which such knowledge is embedded and upon which its meaning depends. Such tacit knowledge may be indeed be unique to particular individuals rather than collective in character – in which case the problems of communication are, a fortiori, problematic – but it *is* often collective rather than simply individual, locally produced and often place specific (1999: 61)

Again this is a point already raised elsewhere on Luhmannian autopoietic-systems, concerning *access* to resources, institutional support and cognitive capacity (Clark and Tracey 2004, cf. also Gren and Zierhofer 2003 on ‘accessibility systems’, elaborated below).

3.3.1a The Learning Firm, The Learning Region and the De-territorialization of Knowledge

A neo-Schumpeterian emphasis on 'strong' competition strategies as the key to corporate success is among the claims of a 'learning firm', emphasizing the creation of new commodities or the use of new processes for making existing commodities more competitive rather than relying on the pursuit of lower unit labour costs (weak). Both 'strong' *and* 'weak' competitive strategies are grounded in different firm generated types of knowledge and learning. And, therefore, the drawback of placing a premium on 'strong' forms of competition is an under representation of the competitive advantage temporarily conferred by 'weak' forms of competitive strategy (Hudson 1999, Storper and Walker 1989).

Under the notion of a 'seamless innovation process', 'learning firm' advocates (cf. Lundvall 1992 on 'learning-by-interacting')[16] also exhibit a tendency toward what Hudson describes as a fusion of the 'mental' and 'manual' worker in the exploration of new work forms (1999: 62-6). But this vision of a pre- or post-Taylorite future of firm pervasive re-skilling and teamwork potentially under represents the reproduction of uneven power relations within the firm whereby workers may be increasingly subject to 'disempowering regimes of subordination' (ibid: 7, cf. also Sec. 5.3.2 and Chapter 6). Hudson (1999) raises a similar concern with new forms of networking between equal partners, highlighting the need to understand the relationship of trust-based cooperation versus the use of coercion in the competition for customers and suppliers. Who are the 'movers and shakers' of these decisive networks and what relationship do they have on new work forms and the use of 'weak' and 'strong' forms of competition? This follows through to the second institutional base of 'learning': the shift to the region and the role and significance of local and regional resources in territorially-based knowledge and institutions behind corporate and regional performance (cf. Clark *et al.* 2002, Clark and Tracey 2004 on 'resource endowments').

The 'learning region' (cf. Morgan 1997; Simmie 1997) is a 'natural' continuation of the 'learning firm'. It raises the significance of place-specific knowledge for the generation of innovation and resources, which is facilitated by regional institutional structures through an interactive collective learning process. This understanding is broadly developed on the notion of "social capital" (Putnam *et al.* 1993, cf. also Amin 1996, Granovetter 1985), and on the premium that is given to the regional scale as the necessary territorial level for the decentralization and organization of resources as well as the most appropriate meso-level for analyzing collective interactions behind the use and generation of these resources (Storper 1995, 1997) and their negotiation with the state (Amin and Thomas 1996).

Clearly, these collective learning networks are not territorially bound necessarily, questioning what role spatial or 'geographic' proximity plays in the learning process (Bunnel and Coe 2001, cf. also Boschma 2005). What drives these learning networks to organize

[16] See also Hudson (1999: 60) for related concepts.

themselves behind the collective production, distribution and exchange of knowledge? Hudson's (1999) contention, again, is that the 'fetishization of knowledge and learning' and an interpretation of its associated institutional bases accordingly can lead to a neglect of other institutional factors that underlie competitiveness and territorial development (cf. Berglund 2004; Chapter 2). Such examples include the institutional 'lock-in' of the institutional bases of regions previously dominated by now declining firms and sectors, which further challenges the notions of 'institutional thickness' (Amin and Thrift 1994) or the density of institutional representation through which the probability of economic adaptation and innovation increases. In other words, there is a general lack of understanding of who controls the process of knowledge production and learning.

Whilst an unprecedented recognition of the production, distribution and exchange of knowledge or learning in the organization of production is commended for its reemphasis of the economy as a complex social process, the limits to such an approach must be equally recognized (Hudson 1999). In fact, Hudson discusses how the literature 'tends to gloss over different forms and processes of knowledge'. Hence in order to begin to explore this possibility, the challenge becomes one of understanding the relationships between knowledge production and acquisition, and competition and cooperation between various territorial and corporate interests (ibid: 60-65). How does one acknowledge the possibility for multiple co-present and parallel systems of interactions in the organizational analysis and conceptualization of change in the space of industry-regional transformation? How would such studies draw out the conflicts and asymmetries or unequal powers and resources *across* multiple systems from 'psychic' (cognitive-frames) to multilevel, cross-scalar socio-spatial knowledge-producing systems? Moreover, how would such studies account for multiple differing stakeholders *within* one organization such as the firm?

3.3.1b Autopoiesis and Cognitive Spaces of Agent-environment Interactivity

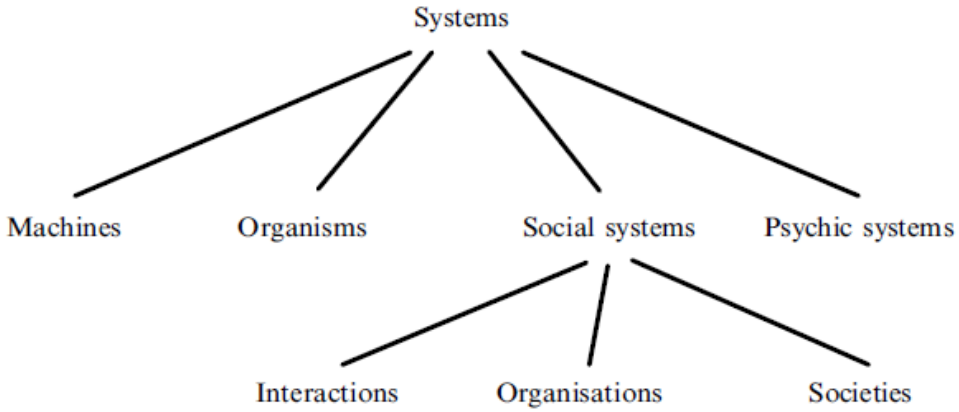
As emphasised earlier, this investigation defines organizations and the cognitive frames/consciousness of agents that occupy them as 'social units' within institutionalized geographies of practice; they are infused in institutional structures of rules, resources and concrete interactions (cf. also Chapter 1 for discussion). This view takes its point of departure from the understanding that agents (organizations *and* the individuals within them) are creative[17] and continuously engaged in sense-making (Weick 1979[1969], 1995, see also Chapter 1 for introductory discussion). Following Luhmann (1995, 1997), Gren and Zierhofer offer a view on organizations that adopt the above understanding. The authors hold out the

[17] This reference to 'creative' infers that agents are not social dopes, or rule-abiding entities of institutionalized systems of social interaction; they are political.

idea of organisations as '*defined* networks of communications and programs. They [organizations] provide a functional structure for communications, which is set up to achieve certain aims and to fulfil specific purposes' (2003: 618). But the authors further note that 'most social systems and organizations, in particular, depend on a very specific coordination of psychic systems [cognitive frames/consciousness], organisms [individuals] and other entities', such as technology-mediated communication, for these purposes.

Thus 'organizations rely on *systems of accessibility* [emphasis added] and […] involve a specific coordination of social, psychic, organic, and allopoietic systems'. In this regard 'accessibility systems' are not '*autopoietic systems* [emphasis added] as such, but only their form of coordination' (ibid: 626). Gren and Zierhofer argue this notion of 'accessibility' within and between systems as a sympathetic critique of Luhmann's (1995) import of the biological process of autopoiesis (Maturana and Varela 1998[1987]) into systems theory whereby autopoietic systems are open by way of their reaction to their environment yet distinct from it. In other words, autopoietic systems are self-producing and self-referential, and thus operationally closed. This becomes part and parcel of a complex articulation of a meta-theoretical conceptualization of society as systems within systems (cf. Fig. 3.1).

Figure 3.1 Three Levels of Analysis and the Position of Social Systems



Source: Luhmann 1995: 2

Luhmann's *Social Systems* (1995) discusses three levels of systems analysis, within which he positions 'social systems' in a conceptualization of systems within systems whereby each serves as the contingent environment of the other. They include (level 1) 'systems', from which you have (level 2) machines (or allopoietic systems), organisms (organic systems inclusive of humans), social systems (communication by face-to-face interactions) and psychic systems (cognitive-frames). And lastly, this level 2 position of 'social systems' is further articulated into its analytical components of (level 3) 'interactions' (co-presence of psychic systems), 'organizations' (as structure for communications by interaction) and 'societies' (the more diffuse or non-local environment of functionally differentiated systems of interaction)

(cf. Sec. 2.3.1 on new institutionalisms in organizational analysis). For the purposes of this investigation (cf. Chapter 1), this multiple systems conceptualization offers a significant departure from the conceptualization of mutually constituting techno-economic [innovation] systems, and the contingent relationships between its components (cf. for example, Carlsson *et al*. 2002).

Furthermore, like the Maturana and Varela-inspired work of Luhmann, this investigation recognizes that there is an environment independent of agent interactivity (Archer *et al.* 1998, and Lopez and Potter 2001 for 'critical realism'). In other words 'there exists both an external world [environment] independently of human consciousness', and a dimension that includes 'our socially determined knowledge of about reality' (Danermark 1997: 22, cf. Chapter 4 for full discussion). Accordingly, and thus for the purposes of this investigation, an a priori or transcendental space of industry-regional transformation (independent of agents' experience) is rejected in favour of a conceptualization of 'space as the two sides of a distinction' (Gren and Zierhofer 2003: 629). In this way, the organization, as self-referential and self-producing (autopoietic) structures for communication by interaction, draw a clear distinction between itself (codes, norms, programmes, etc) and its environment (other organizations and interactions). This conceptualization of space also recognizes the co-presence of multiple cognitive-frames or 'psychic systems' within organizations as defined networks of communications and programmes ('interaction systems'), which will be co-present by way of its agent-interactivity.

> When a communication constitutes a previous communication as a communication, it simultaneously distinguishes it from all those other things in the world that are not communication. […] Distinctions, however, are observations that constitute a difference between two sides and thereby relate these sides to each other. Observations, which are thus the application of distinctions, 'open' the [social] system for conditions of the environment, but as internal operations they 'close' the system by distinguishing it from its environment. *An observation relates and differentiates: it is a unity of difference* (ibid: 618, emphasis added).

One could then well suggest that the characteristics (attributes/relationships) of a system and its components (cf. Carlsson et al 2002) naturally embrace the potential for this co-presence of 'psychic systems'. In other words, by way of agent observations, there is a potential for incorporating the differing "voices" of agency through agents' 'narratives' (Somer 1994, 1998) or perceptions of marked events or stages in their changing environments (cf. also Pred 1977, Boden 1994).

However, whilst the abovementioned Carlsson *et al*. (2002) concern with interaction (feedback) is ultimately interested in the evolution of the system notwithstanding its abovementioned methodological implications, Luhmann's autopoietic systems perspective on interaction opens the possibility for many systems. In other words, whereas Carlsson *et al*. (2002) investigate the bounded rationality (limited capabilities, information, etc) of the 'utility satisficing' choice behaviour of the agent within a functionally differentiated and structure-determined albeit contingent/path-dependent techno-economic, knowledge-producing system

(cf. also Clark and Tracey 2004, Clark *et al.* 2002), Luhmann conceives the agent-interactivity among social systems (interactions, organizations and societies) together with the co-presence of multiple 'psychic systems' [cognitive frames/consciousness] and its relationship to 'organisms' [individuals] and 'machines' such as technology-mediated communication (allopoietic systems).

In this manner, Luhmann is more interested in the 'unities of difference'[18] (Gren and Zierhofer 2003: 618) between multiple overlapping or co-present levels of social systems than the evolution or performance of any one system and its components a priori. At first, this Luhmannian perspective of system and difference may appear to offer no empirical basis for investigation, and to merely suggest that social systems are mental constructions unlike the empirical unit of analysis that Carlsson *et al*. (2002) attribute to techno-economic systems. But, to the contrary, Luhmann leaves no doubt that 'there are social systems' and that they are 'empirical' (1995: 12). Firstly, he suggests that 'actions' emerge as the contents of communication. And secondly 'if conversations, payments, or organisations are real, then social systems are also real. In fact, '[…] according to Luhmann, functional differentiation does not condemn the subsystems of society to a static existence. New systems may differentiate themselves within society while others may merge. Programs and codes may be replaced by newer versions' (Gren and Zierhofer 2003: 621). Like so, there is the potential for multiple paths of development or bundles of path dependant evolution within and across multiple levels of systems.

More importantly, Luhmann's theory does not presuppose any transcendental entity, whether *the* nature, *the* human actor, *the* subject, *the* god, or *the* reality' (Gren and Zierhofer 2003: 618) not to mention *the* system. 'Keeping in mind that all operations of autopoietic systems are only determined by internal selectivity, but never by other systems, we may interpret the dynamic of social differentiation as a *non-Darwinist form of coevolution*. This dynamic, which is neither centrally steered nor following a plan, is certainly both a way out of old pressing problems and an entry into new one' (ibid., emphasis added). More importantly, this perspective allows the possibility for assessing the conflicts, contradictions and dissention as well as matters of inclusion/exclusion within and across systems, which would not be possible with an a priori theoretically-guided evaluation of the evolution and performance of a system. In closing, as Luhmann aptly states, 'theoretically guided research [...] can be nothing other than a self-referential social system, what's more, one among many, a subsystem of a subsystem of society, thus, one of very limited social scope' (1995: 487).

[18] Each system/environment distinction or 'unity of difference' is constituted through the presence/absence of matter/individuals or the inclusion/exclusion of communications in its interactions.

3.4 CONCLUSION: SELF-REGULATORY AND TASK REPRESENTATIVE SPACES OF AGENT-ENVIRONMENT INTERACTIVITY

The above context of a growing appreciation for the 'cross-scalar' relationships that continuously challenge and redefine the 'spaces and scales of innovation' (Bunnel and Coe 2001, see also Sec. 3.3.1), the particularities of its marginal practices (Berglund 2004, Sec. 2.2.1b), and the concerns with its effects on society (cf. Brown 1981, Sec. 2.2), or the cultural acceptance or legitimization of sociotechnical transitions (cf. Geels and Schot 2007), which would require a consideration of the shared and differing ways of ascribing meaning and response to similar socioeconomic circumstances as addressed in the following section (cf. Chapter 1 for introductory discussion); that is distinct cognitive spaces of agency evident in the differing and shared knowledge of appropriate responses to change. This may entail a consideration of how the cognitive-frames of individuals' experiences and organizations' collective knowledge is tied up with the 'cognitive rules' (value / belief systems) of one's social sphere of *self regulation*, which may enable or constrain interpretations of the world in particular ways, and of the relations 'internal/necessary' to agents' operational sphere of *task representation* – as distinct from the 'external/contingent' relations of their environment to which they may be open and reflexive.

Above earlier discussions of the analytical components of institution- and agent-centred explanations in this chapter (cf. Edquist and Johnson 1997, Clark *et al*. 2002) maybe expressed by Luhmann as the autopoietic systems of 'interactions' and 'organizations' (cf. Secs. 3.2, 3.3.1b). Interactions involve the co-presence of multiple psychic systems (cognitive-frames), and organizations act as the structures for communication by interaction; though a key understanding, in this regard, must take recognition of the abovementioned autopoietic nature of these systems as environments of the other. This is a significant departure from the definition of a 'system as a set of interrelated components working toward a common objective' (Carlsson *et al*. 2002: 234). This definition shares the functionally differentiated or, more specifically is suggestive of the operationally closed nature of autopoietic systems. But it remains rather distinct in its conceptualization; that is, the 'system' as a container of 'components', 'relationships' and 'attributes', and the primary unit of analysis.

This approach is also not without its methodological implications, which Carlsson *et al*. identify as determining the level of analysis, delineating its boundaries and identifying its actors (institutions and organizations), and measuring its performance (ibid: 237). Like autopoietic systems, the Carlsson *et al*. interpretation of the techno-economic, knowledge-producing system is one of interaction (feedback) among actors, and 'selective', 'functional' and 'adaptive' abilities. But unlike the Luhmannian perspective, the components, relationships and attributes of the system dynamically reshape its configuration over time; 'because the components of a technological system interact, their characteristics derive from the system'

(Hughes 1987: 52)[19]. In other words, the *components are constitutive of the system, and the system is constitutive of the relationships and attributes of its components*. This is starkly different from a conceptualization of interactions and organizations as distinct sets of self-referential/self-producing operations within and across 'social systems' – as understood in Luhmann (1995: 2; cf. also Fig. 3.1).

Firstly, the abovementioned concerns with the 'system performance' and spatial characteristics of knowledge-producing systems of innovation (cf. Carlsson *et al*. 2002; Table 3.1 for related concepts) remain centred on the 'system' as their unit of analysis. Secondly, notwithstanding explicit justifications for the scope of analysis (technological, sociotechnical/multi-level, sectoral, national or regional), these approaches continue to advance a predominant form of 'learning-by interaction' advanced by Lundvall (1992, cf. Hudson 1999 and Sec. 3.3.1). Accordingly, Carlsson *et al*. explicitly note that 'relationships involve market as well as non-market links. Feedback interaction is what makes systems dynamic; […] the greater the *interaction among the components of a system*, the more dynamic it is' (2002: 234, emphasis added). Thus the relationships between system components inform or characterize the system or its configuration; though this teleological and functionalist view does not open the possibility for contested interaction between 'components' of different systems or the co-presence of multiple systems on an actor such as that of the firm, for example. 'Firms are simultaneously the agents of change and competition and the final point of delivery of programmes provided by other agents' (Lawton Smith *et. al*. 2003: 860).

Geels and Schot (2007) respond to similar allegations of sociotechnical transitions as 'overly functionalistic, […] dominated by rational action [and] neglecting important differences in context'. The MLP involves links between a sociotechnical landscape level, and a socio-technical regime and niche-innovations levels; whereas the latter two levels constitute 'organizational fields' of interacting groups or communities, which share certain rules and coordinate action, the sociotechnical landscapes are a relatively static exogenous context that does not 'determine, but provide[s] deep-structural gradients of force that make some actions easier than others'. Whilst there is no distinct 'system' in this conceptualization, the actors *implied* in the links between socio-technical regime and niche-innovations levels are restricted to processes of technological change and innovation. In other words, the epistemological premise leaves no margin for other forms of knowledge (cf. Hudson 1999 and Sec. 3.3.1) outside the rubric of innovation and technological learning toward 'sociotechnical transitions [to sustainability]' (Geels 2010). Furthermore, the endogenous factors of 'sociotechnical transitions' are studied as a function of a pre-determined exogenous context of environmental change typologies (i.e. socio-technical landscape). Put differently, these environmental changes trigger a reciprocal process that puts pressure on the existing regime, opens up new

[19] cf. also Geels (2005, 2007) and Verbong and Geels (2007)

'windows of opportunity' for niche-innovations, and adjusts the existing regime, which in turn may influence future socio-technical landscape developments in the long term.

Nevertheless, there is a fair degree of merit to the ontological basis of this conceptualisation, which separates the exogenous context of environmental change from the interactions between actors. That is, a 'reality' that remains independent of what actors think of it (Danermark 1997, cf. Chapter 4) – 'an external context that actors cannot influence in the short run' (Geels and Schot 2007: 403). However, on a related epistemological level, the authors do not address the potential for conflicting or contested meanings, activities and motivations among diverse 'organisational fields' of interacting groups reacting to environmental change and its reciprocal relations to the culture, institutions, power, and reproduced practices and social relations of a socio-technical regime; the suggestion remains one of rational, coordinated, utility-sufficing behaviour.

Hence, how does one acknowledge the possibility for multiple co-present and parallel systems of interactions in the organizational analysis and conceptualization of change in the space of industry-regional transformation? How would such studies draw out the conflicts and asymmetries or unequal powers and resources *across* multiple systems from 'psychic' (cognitive-frames) to multilevel, cross-scalar knowledge-producing socio-spatial systems? Moreover, how would such studies account for multiple differing stakeholders *within* one organization such as the firm? And with particular regard for the path-dependent trajectories of technoeconomic innovation-informed transformation, what becomes of the particularities of marginal innovation practices, or those firms that do not exhibit innovation potential or a contribution to the innovativeness of the system (cf. Chapter 2)? Are not these marginal or non-innovative firms still structured in some measure on informal/formal geographies of institutionalized practices albeit institutions that may not be conducive to politically incentivized territorial development programmes or an innovation system? What concerns the 'institutional performativity' of 'competitiveness' rhetoric or the instantiation of institutional expression[20] in the measures (data) and perceptions (ideas, argument) of productivity, innovativeness and 'price' (the market) (cf. Chapters 5 and 6)?

[20] See Amin (2001) on institutions as the spark for economic action; cf. Somers (1998) who advocates a 'problem' versus 'theory' driven approach to actor selection and relational studies.

Chapter 4 Conceptualizing Change: An 'Adaptive-theory' Approach

4.1 INTRODUCTION

The present research investigation has aimed to elucidate the probable links between agents' perceptions, or understanding and experience of change on the one hand, and the development and practical use of their knowledge of change on the other. What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation?

In light of the above aim of this investigation, the following chapter outlines a mixed-method or 'adaptive-theory' approach to the conceptualization of change ('critical methodological pluralism'). This methodological approach has been underpinned by a 'critical realist' philosophy (Archer *et al.* 1998, Lopez and Potter 2001) that maintains there is a 'world' or 'reality' independent ('intransitive') of our understanding and experience of it ('transitive') (Danermark *et al.* 1997). Thus, in the words of Danermark *et al.*, science consists of a set of theories of the 'world' and its dynamics; these theories are not 'reality' but rather concepts competing for a deeper knowledge of 'reality', continuously transformed through the practice of science and hence 'transitive'. In the following passages this view is adapted to the present investigation's effort to conceptualize change in the twenty year course of Portuguese footwear industry transformation until 2006.

'Change' is a social phenomenon. And for the purpose of this investigation change is an 'intransitive' reality independent of agents' differing perceptions, or understanding and experiences of it ('transitive'). The relevance of having designed this research investigation in accordance with a 'critical realist' philosophy departs from a consideration of a 'total history' of change that is indebted to the Annales School of historiography and the New History movement of the 1970s (Le Goff 1978, Le Goff and Nora 1985). This movement has been contrasted with traditional approaches to historical study, which resists a focus on political or high-ranking figures and institutions and their motivations and intentions as explanatory factors of historical events, historical narrative or a willingness to accept historians' objectivity, and an emphasis on administrative documents as a key source of historical inquiry. Thus the present investigation, which has set out to elucidate the probable links between agents' perceptions, or understanding as informed by '*experience*' of change on the one hand, and the development and practical use of their knowledge of change on the other (cf. Tuan 1977, see also Weick 1979[1969], 1995), has had to carefully distinguish between change as a dynamic social phenomenon or 'reality' (intransitive) that is independent of agents' differing ('transitive') experience and understanding of it. As Danermark *et al* aptly argue:

> Reality consists of three domains: our experiences of events in the world, the events as such (of which we only experience a fraction) and the deep dimension where one finds the generative mechanisms producing the events in the world (1997: 43).

This distinction and interrelationship between 'intransitive' and 'transitive' objects of science is therefore essential to the 'critical realist' philosophy, which underpins the 'adaptive-theory' approach adopted in this research investigation.

> The answer which critical realism provides us with is that there exists both an external world independently of human consciousness, and at the same time a dimension which includes our socially determined knowledge about reality (Danermark *et al.* 1997) .

For realist science in general both 'reality' and 'things' (i.e. constituting mechanisms of particular events in space and time, or social structures of 'reality') have an objective existence of their own. As suggested in the above quote, an external world that remains independent of our experience of it and, at the same time, our socially determined knowledge of it as well. Though what distinguishes 'critical realism' from other realist science rests on the understood nature of 'reality' and therefore the means by which knowledge-meaning of 'reality' can be attained (Danermark *et al.*, 1997: 22; cf. also Berger and Luckmann 1979). In the words of Danermark *et al.*, 'critical realism' is situated in an 'ontological gap'. On the one hand, contrary to cognitive relativist and idealist positions whereby 'knowledge is equally valid – or invalid – as any other' (ibid: 24), 'critical realism' claims that there is a 'reality' independent of our knowledge of it. That is whilst 'critical realism' accepts that what can be communicated is largely determined by language, it maintains that language is far from reflecting what really exists. Language is more than just a practical means of communication (cf. Luhmann in Gren and Zierhofer 2003); taken as the sole scientific object of study, the causal mechanisms or socially determined concepts/knowledge of the language world would be left untapped. As Danermark *et al.* aptly put it:

> Taking one's starting point in critical realism […], one will find the solution, namely to become aware of and see the relation between language and reality, that is to see the intrinsic and mutual relation between concept/knowledge, the practices that we as human beings are involved in, and the world our practice is dealing with (ibid: 30).

On the other hand, counter to 'naïve objectivism' and positive empiricism, 'reality' cannot be studied from empirical observations alone (ibid: 39).

The recognition of this 'ontological gap' between what we experience and understand of 'the practices that we as human beings are involved in, and the world [i.e. the 'intransitive' reality] our practice is dealing with' is characteristic of the 'critical realist' nature of 'reality'. In other words, this characteristic departs from the fundamental worldview that 'reality' is structured, differentiated, stratified and changing. This implies that 'reality' constitutes three ontological domains: (1) the empirical (i.e. observed 'reality'), (2) the actual (i.e. experienced, not necessarily observable, 'reality'); and (3) the 'real' (i.e. 'reality' that remains independent of our observation and experience of it). And therefore implicit in these three constituting domains, a systematic understanding of the relations between practices, meaning, concepts and

language are imperative to 'critical realism' (ibid: 39-40). This view is echoed in Derek Layder's 'adaptive-theory' approach, which argues that

> [S]ocial reality is not simply composed of actors' meanings and subjective understandings, but that there exist systemic (or structural) factors which exert considerable influence on the nature of people's lived experiences (1998: 86-87).

This is premised on the notion that behavioural and systemic factors of social life have a mutual influence on each other and are therefore inherently intertwined. Methodologically, this philosophical understanding implies maintaining an 'ontological realism'—whilst acknowledging the role of perception and cognition in social analysis and research.

Several claims by Danermark *et al.* support this view. The first asserts that all science should have generalizing claims on the study of social phenomena for which an investigation of its causal mechanisms is a central task, second. Third, theory is decisive in the 'critical realist' process.[21] This implies that theory should guide research and that it should not fall subordinate to methodological rules, fourth. Fifth, 'critical realist' research can involve a wide range of methodological tools, which requires a break with the quantitative/qualitative categorization of methods, sixth. And, lastly, all above claims considered, an informed discussion of the potential consequences of causal mechanisms through their study in different settings remains possible despite the impossibility of making predictions on social phenomena due to society's nature as an open system.

The potential for this greater ontological 'depth', obtainable through the foregoing claims by Danermark *et al.* (1997), allows the researcher to overcome social determinism and methodological individualism on the on hand, and humanist and interpretive sociologies of action-oriented behaviour on the other. This methodological claim is echoed in the following statement by Roy Bhaskar concerning the (re)establishment of society:

> Society is not the unconditioned creation of human agency (voluntarism), but neither does it exist independently of it (reification). And individual action neither completely determines (individualism) nor is completely determined by (determinism) social forms. In [this conception], unintended consequences, unacknowledged conditions and tacit skills…limit the actor's understanding of the social world, while acknowledged (unconscious) motivation limits one's understanding of oneself (cf. Bhaskar 1982: 286, quoted in Manicas 1998: 322).

That said, a concerted effort to incorporate these claims in the operationalization of the research fieldwork for this investigation has taken, as an initial departure, the basic understanding that the two most important problems in sociological analysis are the interrelationships between agency and structure, and macro and micro levels of analysis (Layder 1998: 81). This understanding has led to the adoption of an 'adaptive-theory' approach, which has offered practical guidelines for the design and operationalization of the research fieldwork.

[21] This is closely related to the thought operation of *retroduction*, which establishes the basic conditions required for a phenomenon to exist. Prior to this thought operation is that of inferring or interpreting a particular phenomenon or event from a set of general ideas or concepts known as *abduction*. I will return to these two thought operations in later sections of this chapter

Thus the above mixed-method approach has translated into two self-reinforcing qualitative/quantitative studies, each of which constitutes a distinct phase in the fieldwork for this investigation. The first phase of the fieldwork has involved compiling a dataset of industry firm and funding data from which an informed semi-structured interview process has been carried out (see Sec. 4.3.1). The second phase of the fieldwork has built upon respondent data in the first phase through an MDS cognitive mapping exercise (see Sec. 4.3.2). Both phases hinge on an 'adaptive-theory' approach, which has argued for the use of 'extant' knowledge at the outset of the research fieldwork (Sec. 4.2), helping to ensure that as much of the theory-generation is administered during the research process itself (cf. also Yeung 2003 on 'process-based research' methodology).

Lastly it is important to reemphasize that the 'adaptive-theory' approach is underpinned by the abovementioned 'critical realist' understanding, which maintains there is a 'world' or 'reality' independent ('intransitive') of our understanding and experience of it ('transitive'). This consideration of the 'intransitive' and 'transitive' objects of science has been especially useful in the treatment of a social phenomenon as 'change' and collecting data on differing agents' understanding and knowledge of it (see Chapter 6 for full discussion). In other words, both 'intransitive' and 'transitive' objects of investigation coincide with 'external/contingent' and 'internal/necessary' social relations, respectively (elaborated below). In the remaining sections of this chapter, I will return briefly to this 'critical realist' philosophy, followed by a brief discussion of its methodological implications and an introduction to the 'adaptive-theory' approach to conceptualizing change in the process of Portuguese footwear industry transformation, and its operationalization in the remaining two sections.

4.2 AN 'ADAPTIVE-THEORY' APPROACH

In step with the general 'realist' lines of 'critical realism', Derek Layder's (1998) 'adaptive-theory' approach is found to be the most appropriate orientation for the problem-focus of this research investigation, which places special emphasis on 'lifeworld'-systems interlocks. That is, a framework for the study of actors' meanings, activities and motivations (lifeworld) and its reciprocal relations with culture, institutions, power, and reproduced practices and social relations (systems) (ibid: 27). The methodological implications of an 'adaptive-theory' approach are reflected in the:

> [A]ttempts to combine an emphasis on prior theoretical ideas and models which feed into and guide research while at the same time attending to the generation of theory from the ongoing analysis of data (Layder 1998: 19).

That is, the approach enables theory generation alongside ongoing empirical research. This offers a fresh and radical alternative to other approaches that often have a preference for one

over the other, as opposed to simultaneously privileging prior or 'extant' theory, and empirical data and emergent theory. Furthermore, it provides an alternative to postmodernist and poststructuralist teachings that are committed to exclusively interpretivist (humanist or phenomenological) approaches to social analysis and research, or the behavioural dimensions of social life. Among these humanist approaches are symbolic interactionists, phenomenologists, and ethnomethodologists as well as grounded theorists who, by limiting their work to the intersubjective meanings and understandings, eschew objectivist, socio-structural (or systems) features of the social world (ibid: 81-2).

This line of reasoning follows two broad theoretical approaches that are each limited with respect to their emphasis on the use of theory and theoretical 'development' in social research, paralleling broader discussions on theory-testing *versus* theory-generating. In acknowledging the limitations of the methodological focus of the two approaches, Layder takes into consideration the practical research implications that each offers and combines them into his suggested 'adaptive-theory' approach. The first of these two approaches is the 'middle-range' approach (Merton 1967), which supports the theoretical formulation of hypotheses before commencing with research in order to guide it after the data has been collected; these hypotheses are adjusted along the way in order to help give shape to subsequent theorizing. But Layder (1998: 18-19) claims that the 'middle-range' approach has only given qualitative research a 'secondary role' with respect to the still centralized importance of quantitative data, and its role in verifying the theoretical ideas developed along the course of deductively reasoned research. The 'grounded theory' approach (Glaser and Strauss 1968), second, is a counter-point to Merton's 'middle-range theory' approach, which, in Layder's view, limits the possibility for simultaneously privileging prior or 'extant' theory, and empirical data and emergent theory. This, he claims, is due to the 'middle-range theory' emphasis on having little pre-formulated theory prior to undertaking any research – in order to ensure that as much of the theory-generation is done during the research process itself.

In light of the above limitations to the 'grounded' and 'middle-range' approaches, Layder argues:

> [T]he 'adaptive-theory' approach deals with both behavioural (activity, meaning and lived experience) phenomena as well as systemic phenomena. In this respect it attempts to trace the reciprocal influences and interconnections between people's social activities and the wider social (systemic) environment in which they are played (1998: 20).

This particular attempt to trace the reciprocal influences and interconnection between people's social activities and their wider social environment is underpinned by the abovementioned 'critical realist' view that there is a 'reality' independent of our experience and knowledge of it. In other words this wider social (systemic) environment within which people's social activities are played out, claims Layder, must be understood objectively (1998: 140). And it is this moderate form of objectivism that distinguishes an 'adaptive-theory' approach from 'grounded' and 'middle-range' approaches, allowing researchers to overcome

the overemphasized study of inter-subjective relations between agents that often lack an adequate link to the social structures within which they take place; and according to which he defends the notion of 'lifeworld'-system interlocks:

> System factors predominantly denote the reproduced aspects of social relations as they have been stretched through time and space and away from face-to-face activities (which ultimately feed into their continuity and reproduction). In this sense they cannot be understood in terms of the motives, reasons or the intersubjective 'lived' experiences of people, and instead they must be viewed as part of the (contextual) conditions which constitute the wider social environment of social life and activity (Layder 1998: 89).

This view echoes that of Danermark *et al* (1997) who suggest that:

> Reality consists of three domains: our experiences of events in the world [the 'empirical'], the events as such (of which we only experience a fraction) [the 'actual'] and the deep dimension where one finds the generative mechanisms producing the events in the world [the 'real'] (p. 43).

And from this critical realist standpoint, once again, both Layder (1998) and Danermark *et al.* (1997) suggest the need 'to become aware of and see the relation between language and reality.'[22]That is, to see, as Danermark *et al*. defend,

> [T]he intrinsic and mutual relation between concept/knowledge [the 'empirical'], the practices that we as human beings are involved in [the 'actual'], and the world our practice is dealing with [the 'real'] (1997: 30).[23]

A thorough consideration of the ontological and epistemological implications of the aims and objectives set out for this research would not have been possible without the above 'critical realist' standpoint. What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation? Operationalized through an 'adaptive-theory' approach, the answers to these central research questions have sought to elucidate the probable links between agents' perceptions, or understanding and experience of change on the one hand, and the development and practical use of their knowledge of change on the other.

But where does one begin to identify the 'system factors' to which Layder refers above? These 'system factors' or 'the reproduced aspects of social relations as they have been stretched through time and space and away from face-to-face activities' are not static and unchanging, but rather in a state of constant transformation or fluctuation. Furthermore, the transformation and reproduction of social relations can be revealed through their involvement with relations of power, control and domination. As Layder aptly describes:

> [I]nstitutions, language, culture and various forms of knowledge are all susceptible to the transformative powers of individuals and social groups, but they nonetheless confront particular individuals and groups as the products of previous generations (1998: 88).

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[22] See also Gren and Zierhofer 2003 on 'communication' and the spatiality of interaction and observation as 'two sides of a distinction'; and Sec. 3.3.1b discussion of autopoiesis and cognitive spaces of agency.

[23] See earlier discussion on the 'transitive' and 'intransitive' objects of science for the principal underlying claim of 'critical realism' which maintains there is a 'world' or 'reality' independent ('intransitive') of our understanding and experience of it ('transitive').

That is, the informal institutions of language and culture impose constraints on human agency while simultaneously the products of transformative powers of individuals and social groups (see Chapter 2 for discussion). Though it is not necessarily *how* transformative powers of agency can be manifest in social structures, which particularly has concerned this research investigation, but *what* links can be identified between agents' perception or understanding of transformative processes to which they contribute as well as their development and practical use of knowledge of those processes. Again, what 'hidden persuaders' (Hodgson 2003) have determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation? Following the abovementioned 'adaptive-theory' approach, 'extant' theory has been introduced prior to pursuing answers to the research questions for this investigation (Chapter 1), ensuring that as much of the theory-generation is done during the research process itself (Layder 1998).

In fact, the 'agent-centred' focus of Lawton Smith *et al*.'s (2003) paper was especially thought-provoking in early stages of the research design for this investigation. In this work Lawton Smith *et al* stress that 'traditional studies have neglected agents' information, knowledge and cognitive skills' (2003: 2, cf. also Clark *et al.* 2002, Clark and Tracey 2004, and Sec. 3.2.1). Though, perhaps more importantly the authors also highlight the tensions between public sector and third party interests that have 'fixed operational jurisdictions while firms have more than one need' (2003: 3). Thus for Lawton Smith *et al*., the neglected features of agents' information, knowledge and cognitive skills becomes 'a question of the ways in which sources ('resource endowments') of agency in particular contexts translate into power to affect or influence change through cooperation with others'. 'Agency as a process', they further argue, 'relates to economic agents in relation to other agents and relevant institutions and social circumstances' and 'the potential of agents to manipulate the environment for context specific ends' (ibid: 2). This 'environment' or 'task environment', they claim, originates in the powers of agency, of 'institutional arrangements', of 'institutional ensembles', which are able to influence and manipulate these environments or operational spheres.

An incorporation of the above elements of the authors' 'agent-centred' perspective (i.e. 'resource endowment', 'task environment', 'operational jurisdiction' and 'multi-jurisdictional environment') is currently echoed in the theoretical conceptualization that will be discussed in subsequent chapters. And once more, following the abovementioned 'adaptive-theory' approach, the resulting research design and operationalization evidently shares an interest in the institutional and cognitive dimensions of an organizational analysis suggested by the authors (cf. also 2.3 on new institutionalism and the 'particular' in organizational analysis). Above all, this is evident in two distinct yet interrelated fieldwork stages of this investigation: the preparation of a semi-structured interview process that has generated several change

narratives (Sec. 4.3.1), and a cognitive-mapping exercise (Sec. 4.3.2) that has offered an interpretive lens on differing accounts of 'change' by industry and regional actors.

4.3 OPERATIONALIZATION OF AN 'ADAPTIVE-THEORY' APPROACH

The present research investigation has its origins in funded research collaboration on innovative practices and dynamic transformation in the Portuguese footwear industry, to which I contributed from 2002 until the end of 2003. The later stages of fieldwork for the above research project coincided with the initial stage of the current research investigation (in late 2003)[24]; the overlap of these two projects would later inspire the abovementioned 'adaptive-theory' approach. That said, it should be mentioned that the efforts to simultaneously work out where one project ended and where the other followed proved to be a difficult and, at times, a discouraging exercise. Initially, before the start of this investigation in late 2003, it was thought that the two projects could be linked; but this possibility became increasingly more distant as their conflicting objectives became apparent. That is, the lead partner for the funded research collaboration had a particular agenda that conflicted with the wider sensibilities and objectives of this investigation.

The above research collaboration consisted of a number of 'tasks' aimed at understanding the dynamics of 'innovative' practices in the Portuguese footwear industry, which contributed to the course of its twenty year transformation since 1980. This aim was political. The next round of EU funding (2007-2013) was fast approaching and the addition of twelve new European Member States would result in significant European funding cuts for Portugal; and the footwear industry association (APICCAPS) and technology centre (CTCP) would need to revise future guidelines for the sector after two decades of technology-led industry restructuring. Altogether these considerations prompted the immediate need to identify systematically where the industry had been successful so as to encourage future State funding to the sector.

This need had a dual purpose for APICCAPS/CTCP. It was essential to illustrate the (1) achievements of the sector through its innovative/organizational capacity, and (2) its productive use of European/State funding in the process of its transformation. The immediate implications of these two institutional concerns consequently shut out various other dimensions of the history of the industry's 'dynamic transformation', such as the role of small/micro-enterprise firms and labour relations. Upon having realized APICCAPS' and CTCP's determination to illustrate to Government the sectors' innovative and organizational accomplishments, particularly in the way of well appropriated EU/State funding, I was certain

[24] The current research investigation has been funded by the Portuguese Calouste Gulbenkian Foundation (2003-2006) and the UCL Overseas Research Award (2004-2007).

the two research projects were at odds; in other words, the understanding of industry transformation in the present investigation has maintained that change in the process of industry transformation has not been hinged solely on 'innovation' or the organizational capacity for 'innovativeness'. Thus there has been a need to distinguish 'innovativeness' from 'mere change' (see Chapter 2 for full discussion), recognizing that 'all innovation presupposes change, but not all change presupposes innovation' (Johannessen 2001: 22).

This realization subsequently has sought to investigate whether the outcomes of the two projects could become intertwined, ultimately reinforcing the present research investigation's position on industry-regional transformation – seeing as the two projects were fundamentally at odds. In the months leading up to the final interview stage in February and July 2006, after initial interviews in February 2004, and February, March and June 2005 with industry and regional agents (Tbl. 4.1), the possibility for allowing some continuation between the funded research collaboration and this research investigation, whilst maintaining both projects separate, immediately became clear with the 'adaptive-theory' approach. That is, the empirical results of the research collaboration and the incorporation of established theoretical reasoning as 'extant' theory or knowledge at the outset of this thesis investigation. The remainder of this chapter accordingly, from a methodological standpoint[25], provides a detailed discussion of the two-stage research fieldwork.

4.3.1 Preparation for Semi-structured Interview Process

4.3.1a Creation of Industry Firm and Funding Dataset

The 'extant' dataset for this investigation was largely compiled during the closing stages of the abovementioned research collaboration. It is the product of secondary data on footwear industry firms, which was purchased from the Departamento de Estudos Estatisticos e Planeamento (DEEP; 1990, 2000) and Dunn & Bradstreet (D&B; 2005), and requested data on industry funding (1988-2006) from various Government agencies. The first stage of the data mining worked the DEEP datasets for 1990 and 2000 into a coherent dataset. But there were inconsistencies between the two datasets (e.g., number of firms) due to their respective data collection methods, which could not be explained on the basis of firm closure alone.[26] The

[25] See abovementioned reference to 'critical methodological pluralism, and previous discussion in Section 4.2

[26] DEEP largely worked with business tax collection data; also much of the supplementary data (e.g., number of employees) requested of firms by DEEP was done on a 'voluntary' basis. It also ought to be mentioned that data entry at DEEP was inconsistent or incomplete (e.g. the input of a firm's full business name in one year and an abbreviated version in another; and firm addresses in one year that did not contain all needed information on a firm's location in another year). Both these inconsistencies and the change in industrial classification in 1992 made it difficult to determine whether a given firm had, for example, moved to a different part of the city council or another council altogether as it often was

challenge posed by these data inconsistencies were compounded by changes to the industrial classification system in 1992, which disaggregated the original classification of the 1990 dataset. This particularly challenged the efforts to track firms between 1990 and 2000; to make matters worse, firms were re-classified and often times inputted with abbreviated firm names. Consequently, this has made the process of matching the 1990 and 2000 datasets extraordinarily time-consuming because of the need to rename firms prior 1992 as well as the need to re-classify them under the new industrial classification system.

The next step in this data mining process linked the firm data with nearly twenty years of industry funding, which has been obtained from several Government agencies. Though unlike the standardization of firm data immediately beforehand, the collection of data on industry funding presented itself with another set of challenges whereby the early treatment of this data by Government agencies was premature and not recorded appropriately for easy retrieval. This significantly delayed Government agencies' response to my request for data. Ultimately, the much sought after data on European Regional Development Funds (ERDF) was obtained; though the same can not be said for the requested data on European Social Funds (ESF) in spite of repeated requests.[27] Nevertheless, the combined footwear firm and industry funding (ERDF) data is a significant dataset, and a significant achievement in light of its measured success in overcoming data gaps and institutional hurdles.[28]

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the case when street names were provided without a reference to a city council). In these circumstances, various Internet search engines and online searches on the National Post Office website were necessary in order to confirm firm addresses.

[27] Despite the lack of data on projects financed with European Social Funds, it was possible to identify where European Social Funds would have been applied by identifying those ERDF projects with a training component; the absence of data on European Social Funds hindered access to knowledge of the nature of funding to industry support organizations such as the footwear technology centre (CTCP) among other training organizations directly or indirectly providing services to the sector.

[28] The 1990 and 2000 firm datasets were matched with industry funding data as well as European territorial codes at the parish level. This permitted GIS-visualization of the geographic distribution of industry firms and funding over time. However, these outputs did not contribute any immediately significant changes in the distribution of firms and funding. Therefore the maps have not been printed.

Table 4.1 Interview Stages

2004	Interviewee	Org. Type	Post
14-Jul	CM-OZ / GAE	Bus. Supp.	Coordinator
19-Jul	CM-SJM	Local council	Vice pres.
19-Jul	SOICAL	Labour Union	Director
19-Jul	CM-SJM/GAE	Business Supp.	Consultant
20-Jul	CM-SMF	Local council	Dir., Plng.
20-Jul	CM-FEL	Local council	Plng. Off.
20-Jul	CM-SMF / GAE	Bus. Supp.	Cordinator
21-Jul	"Eccolet"	Ftwr. firm (750)	Seamstress
21-Jul	ADREDV	RDA	Proj. officer
Jul-04	APICCAPS	Ind. Assoc.	Consultant
Jul-04	"Basilius"	Ftwr. firm (140)	Partner

2005	Interviewee	Org. Type	Post
21-Feb	"Xoiostec"	Comm. agents	Partner
22-Feb	CTCP	Technology centre	Director
23-Feb	"Eject Shoes"	Ftwr. firm (97)	Director
24-Feb	EPF	Training centre	Director
24-Feb	"Savana"	Ftwr. firm (80)	Director
17-Mar	CFPIC	Training centre	Director
17-Mar	"Par Unico"	Ftwr. magazine	Partner
30-Mar	"Eject Shoes"	Ftwr. firm (97)	Owner
30-Mar	"Codizo"	Ftwr. firm (194)	Director
07-Jun	CTCP	Technology centre	Proj. mgr.
07-Jun	CTCP	Technology centre	Proj. officer
07-Jun	CTCP	Technology centre	Director
Jun-05	"Filipe Shoes"	Ftwr. firm (50)	Director
Jun-05	"Conforto"	Ftwr. firm (68)	Prod. mgr.

2006	Interviewee	Org. Type	Post
06-Feb	CFPIC	Training centre	Director
06-Feb	CTCP	Technology centre	Director
07-Feb	CCDR-N	Reg. coord. comm.	Prog. Mgr.
07-Feb	FESETE	Labour union	Gen. sec.
08-Feb	EPF	Training centre	Director
08-Feb	ICEP	Chamber of comm.	Director
09-Feb	APICCAPS	Ind. Assoc	Director
09-Feb	INTELI	Innov. centre	Consultant
10-Feb	CNEL	Nat'l tech. coord.	Officer
26-Jul	"Basilius"	Ftwr. firm (140)	Partner
26-Jul	CM-SMF / GAE	Bus. Supp.	Cordinator
27-Jul	"Eject Shoes"	Ftwr. firm (97)	Director
27-Jul	"Savana"	Ftwr. firm (80)	Partner
27-Jul	SOCAL	Labour union	Officer
31-Jul	"Conforto"	Ftwr. firm (68)	Prod. mgr.

Selected Interviewees

Source: Author

4.3.1b Dimensions of 'Change'

This use of 'extant' data and theory has been an integral aspect of the overall approach to this investigation, helping to ensure that as much of the theory generation is administered during the research process itself (Layder 1998). By this means, this investigation has aimed to elucidate the probable links between agents' perceptions, or understanding and experience of change on the one hand, and the development and practical use of their knowledge of change on the other. That is, its key departure point has been to avoid conflating agents' understanding of change into a mere characterization of 'innovation' as the leading driver of industry transformation (see Chapter 2 for full discussion).

Furthermore, this wider focus on change has been incorporated from a 'critical realist' standpoint. In other words, the social phenomenon of change has been treated as a 'reality' ('intransitive') that is independent of agents' differing ('transitive') experience and understanding of it (Danermark *et al.* 1997). Thus change has been treated as two objects of science; this has allowed the investigation to pursue its objectives through a pre-select group of interviewees/participants who inform a notion of change on the basis of their experience and knowledge of it – as distinct from a 'reality' of change that remains independent of what interviewees' think of, or act on it (see Chapter 6 for full discussion).

For instance the global market volatility of rapid changes in consumer trends and the concentration of TNC-controlled commercial markets can be understood effectively as an environment of 'external/contingent' relations (an 'intransitive' reality), simultaneously affecting a number of local, regional and national contexts within which 'internal/necessary' relations ('transitive' realities) reflect agents' differing experience or understanding of external/contingent factors at different levels of agent-environment interactivity. Therefore, this investigation has sought to elucidate the probable links between these two sets of social relations or objects of science by pursuing probable links between agents' differing perceptions of change and their development and the practice of their knowledge of it; that is, the 'meaning' that agents attribute to past experiences, external events, and competing and joint actions.

Thus, whilst drawing on 'extant' data on industry firms and funding as well as on 'extant' theory for this investigation, three dimensions of 'change' have been introduced at the outset of the research process. The first of these three change dimensions has been designated as the 'outcomes' dimension. This particular dimension is typically understood as the product of any number of individuals, events or processes.[29] This dimension also has been associated with

[29] Recall earlier discussion on a 'general' conceptualization of history whereby no one entity in the process of change is fundamental.

agents' most basic thinking on processes change within the space of industry-regional transformation. The remaining two change dimensions have been closely tied to the differing change perceptions of agents working within particular operational spheres, driven by individual and organizational world views and endowed with different and often unequal powers and resources. These two change dimensions have been referred to as 'industry-regional resource accessibility' and 'agent-environment interactivity'; both dimensions have been motivated by established theoretical reasoning (cf. Clark *et al.* 2002 and Lawton Smith *et al*., 2003, and Gren and Zierhofer 2003; see also Secs. 2.3 and 3.3 for wider discussion). When adapted to the objectives of this investigation the above dimensions of change have helped to elucidate different sets of interrelationships between all three dimensions of change and to provide valuable levers for its overall conceptualization (see Chapters 6 and 7 for analysis and interpretations of change respectively).

Lastly, the design of the semi-structured questionnaire (Tbl. 4.2) has been structured with the interrelationship of these change dimensions in mind. The semi-structured interview questionnaire is a multi-dimensional framework set out to inform the abovementioned central research question (CRQ) for this research (Wengraf 2001), which has been informed through several secondary questions or theory questions (TQ). Each of the theory questions has been assigned interview questions (IQ) so as not to influence interviewee responses and to safeguard the underlying agenda of this investigation. The IQs have provided an easily accessible and/or informal means for interviewing, generating responses that have been linked to the secondary questions or TQs and their respective dimension of change. In turn, this has allowed the IQs to inform the TQs that inform the CRQ as well as the three pre-determined dimensions of change.

The respondent data that has been organized under each of the dimensions of change has allowed a more effective means for studying and analyzing the data; this has been particularly helpful when having had to distinguish between 'external/contingent' social relations ('intransitive') and 'internal/necessary' social relations ('transitive'). This unique approach to collecting/organizing respondent data on the field also has allowed an effective means for closely examining each of the pre-determined dimensions of change. In fact the decision to introduce the MDS cognitive-mapping exercise, partway in the course of the fieldwork for this investigation, has been a direct result of having had the ability to effectively examine the respondent data and its respective dimensions of change; the MDS cognitive-mapping exercise takes a number of reoccurring references to change from responses to TQs under each of the three change dimension categories and studies their interrelationships (MDS 'statements', see Tbl. 4.5). I will discuss three distinct stages of this process later in the chapter. Though, before doing so, I will briefly close this section on the adopted means for selecting interviewees.

Table 4.2 Semi-structured Interview Questionnaire

CRQ	***What has determined differing agent perceptions of 'change' and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry-regional transformation?***	
OUTCOMES DIMENSION - 'External/Contingent' Relations ('Intransitive')		
TQ1	***Are industry outcomes/actions engendered through reasoned responses to particular perceptions of 'change' over time?***	
	IQ1	What would you consider to be your principal contribution to the immediate needs of the footwear industry and has it changed over time?
	IQ2	What would **you** consider to be the current priorities for the future well-being of the footwear industry?
	IQ3	Why would **you** consider this to be so? And has it changed over time and why?
'INDUSTRY-REGIONAL RESOURCE ACCESSIBILITY' DIMENSION - 'Internal/Necessary' Relations ('Transitive')		
TQ2	***What information has come to bear on strategic decisions and why?***	
	IQ1	What would **you** consider to be the key strategic lines for the footwear industry today?
	IQ2	Do these strategic lines reflect the needs of the regions in which the industry is located?
	IQ3	How have these strategic lines changed over time? What should constitute as the future strategic orientations for the industry after 2006?
TQ3	***Is there any relationship between industry and business strategies and the reasoning of agents' actions?***	
	IQ1	Could **you** describe the objectives of past CSF funding or industry sector strategies? If so, have **you** had any role in the delivery of these past and/or on-going strategic initiatives?
	IQ2	What would **you** consider to have been the key determinants of these objectives?
	IQ3	What was **your** role in the delivery of the objectives of these projects or strategic initiatives? How were participants selected for participation?
	IQ4	How would **you** describe your relationship with the other participants in the projects? Were **you** well acquainted with all of the partners before the project?
TQ4	***If so, what are the necessary and/or contingent factors associated with this reasoning?***	
	IQ1	What 'uncertain' conditions do **you** contend with on a regular basis? Which would **you** consider to be necessary and/or expected aspects of what **you** do?
'AGENT-ENVIRONMENT INTERACTIVITY' DIMENSION - 'Internal/Necessary' Relations ('Transitive')		
TQ5	***Has institutional change accompanied organizational changes in the sector?***	
	IQ1	What organizations and institutions do **you** regularly work with? Are these relations long-running?
	IQ2	Would **you** consider these organizations and institutions information resources? If so, how would **you** describe the application these resources to your individual responsibilities as an organization?
	IQ3	How much weight do **you** give these information resources? And how would **you** describe your relationship with these organizations? Is 'proximity' a factor, for example?
	IQ4	What points of reference do **you** use to establish your strategic orientations? Have any of these resources regularly contributed to **your** strategic orientations?

Source: Author

4.3.1c Selection of Interviewees

The selection of interviewees partly has been based on the 'extant' knowledge for this investigation. That is, the industry firm and funding dataset discussed earlier has been used to identify firms for interview; the remaining organizations have been identified as having regular contact with footwear industry firms and workers. On the whole, this selection process has involved two distinct stages: first, all organizations directly or indirectly interacting with firms in the industry have been selected. This has been followed by a second stage selection of footwear production firms with the highest cumulative amounts of government funding (i.e. based on the industry firm and funding dataset, Tbl. 4.3).

Various meetings with several industry and regional actors have been held informally in the run up to the final selection of interviewees. In fact, this particular stage of the fieldwork primarily has taken place in the last third of the total time spent in the field (Tbl. 4.1). Though, it should be mentioned that other factors and constraints ultimately contributed to the final selection of the footwear production firms. The principal constraint has been firms' unwillingness or inability to participate despite regular telephone calls; this has been particularly the case with those firms with whom I had not been able to establish previous relations in earlier stages of the fieldwork. Lastly, this constraint has been accompanied by a consideration of distinct industry firm characteristics.

The final selection of four firms (Tbl. 4.3) is joined by eight industry and regional organizations (Tbl. 4.4). The four firms each represent one of two typically recognized areas of geographically concentrated footwear industry production in the Norte region of Portugal (Tbl. 5.3).[30] FIRM 1 was selected for its close proximity to and interaction with other industry organizations such as EPF (local training centre), which hosts the annual footwear design show, and CTCP (footwear technology centre). FIRM 2 was selected because it had been the product of redistributive regional policy, which encouraged the re-location of national economic activity to rural/less-developed areas of the country. An unsuccessful case of a government funded project (FIRM 3) and a highly esteemed but recently closed firm (FIRM 4) also were included to 'test' the views of the previous two firms as well as those organizations of strong industry sector interests such as APICCAPS and CTCP.

[30] Table 5.3 identified three 'production concentrations'. But the selected firm interviewees were selected from the oldest conurbation of footwear activity (#1) and the most recent (#2).

Table 4.3 Selected Firms[31]

	Firm	Location	No. Employed (2005)	Contact	Total Paid ('000s€)
FIRM 1	J. Sampaio & Irmao, Lda. (a.k.a. Eject)	Felgueiras	97	Joaquim Carvalho & Joao Barbosa	1988-2006 (CSF I/II/III)
	TOTAL PAID:				**898.4**
FIRM 2	Savana - Calcados, Lda.	Felgueiras	80	Jorge Fernandes & Silvia Marinho	1988-1999 (CSF I/II)
	TOTAL PAID:				**129.3**
FIRM 3	Conforto Industria e Comercio de Calcado, Lda.	Ponte de Lima	68 (closed in 2005/06)	Rui Grenha	1988-1999 (CSF I/II)
	TOTAL PAID:				**137.1**
FIRM 4	Basilius Empresa Produtora de Calcado, SA.	Santa Maria da Feira	140 (closed in 2005/06)	Nuno de Oliveira	1988-1999 (CSF I/II)
	TOTAL PAID:				**1,558.6**

Source: Author

The industry organizations include the business association (APICCAPS), technology centre (CTCP) and regional training centre (CFPIC), and local and national labour unions (SOICAL and FESETE respectively). Other local, regional and national organizations include a local business support centre (SMF-GAE)[32], a locally initiated regional training centre in one of the region's well known footwear producing cities (EPF), and the fashion industry branch of the national chamber of commerce (ICEP).

That said, the above selection of interviewees coincides with the key underlying consideration of this investigation, which maintains that change, in the process of industry transformation, has not been solely hinged on 'innovation' or the organizational capacity for 'innovativeness'. In other words, a concerted effort has been made to include all organizations directly and/or indirectly working the footwear industry – as opposed to limiting the selection to organization typically seeking to enhance the innovative capacity of footwear industry firms; this has involved re-emphasizing the present investigation's notion of multidimensional change from that of 'innovation', arguing thereby that 'all innovation presupposes change, but not all change presupposes innovation' (Johannessen *et al.* 2001: 22).

[31] The combined average pay out to the Portuguese footwear industry per recipient firm for CSF rounds I, II and III was 204k €; 353 footwear production firms benefited from EU/Government funding between 1988-2006, which has been calculated at 72.1m euros. All calculations are the responsibility of the author.
20.4m euros was distributed to a total of 152 recipient firms at an average 134k euros per recipient firm from 1988-1994 (CSF I);
19m euros was distributed to a total of 159 recipient firms at an average 120k euros per recipient firm from 1995-1999 (CSF II); and
32.8m euros was distributed to a total of 42 recipient firms at an average 780k euros per recipient firm from 2000-2006 (CSF III).

[32] The local business support centres in Portugal are local council initiatives; SMF-GAE is located in a council strongly associated with Portuguese footwear production, and the first of its kind in the country.

Table 4.4 All selected Interviewees

Interviewee (organization)	Organization type	Variable
Associação Portuguesa dos Industriais de Calçado, Componentes, Artigos de Pele e seus Sucedâneos	Footwear, components and leather products industry trade association	**APPICAPS**
Federação dos Sindicatos dos Trabalhadores Têxteis, Lanifícios, Vestuário, Calçado e Peles de	National footwear, textiles and apparel labour union	**FESETE**
Sindicato dos Operários da Indústria do CALÇADO, Malas e Afins dos Distritos de AVEIRO e Coimbra	Regional footwear labour union	**SOICAL**
Centro Tecnologico do Calcado de	Regional footwear technology centre	**CTCP**
J. Sampaio & Irmão, Lda.	Firm, Felgueiras	**FIRM 1**
Savana - Calcados, Lda.	Firm, Felgueiras	**FIRM 2**
Conforto Industria e Comercio de Calcado, Lda.	Firm, Ponte de Lima	**FIRM 3**
Basilius Empresa Produtora de	Firm, Santa Maria da Feira	**FIRM 4**
Camara Municipal-Sta Maria da Feira - Gabinete de Apoio ao Empresario	Local business support centre, Santa Maria da Feira	**SMF-GAE**
ICEP - Icep Portugal, Instituto das Empresas para os Mercados Externos	Nat'l chamber of commerce, fashion industry branch	**ICEP**
Centro de Formacao Profissional da Industria do Calcado	Regional footwear training centre	**CFPIC**
Escola Profissional de Felgueiras	Local training centre, Felgueiras	**EPF**

Source: Author

Moreover, this view has been argued on the following consideration: a substantiated perspective on the longevity of pre-conceived notions are difficult to obtain primarily because of the scientific limitations of identifying *how* perceptions are changing across 'time' and 'space' when institutional structures have been abandoned in favour of others and new ones have emerged (see industry chronology in Tbls. 5.1a – 5.1b). In light of this early field observation, a concerted effort has been made to give this investigation a time-space coherence (cf. Gren and Zierhofer on space as 'two sides of a distinction' in Sec. 3.3.1b; see also introductory discussion in Sec. 1.3.2); that is, in spite of the difficulty of identifying *how* perceptions are changing across 'time', some indication of the 'time' factor has been discussed in Chapter 5 (see Sec. 5.3 on (re)institutionalization of the industry).[33]

Thereby the emphasis on 'space' has involved efforts to better understand *how* agents' differing perceptions of change in the space of industry-regional transformation have been linked to the development and practical use of their knowledge of it. This view also has been understood on the basis that an understanding of agents' changed perceptions over 'time' will be implicit in their accounts of industry transformation. In fact, select interviewees have

[33] cf. also tensions between 'historical explanations' and path-dependent processes in Mahoney (2000, 2003), Pierson (1996) and Thelen (1999).

pointed out that industry firms oftentimes have 'locked-in' to particular business practices regardless of their need to change (see Sec. 6.3.2a – perceptions of change and 'mentalité'), suggesting that whilst some agents' altered perceptions of change have enabled them to consider alternative business practices, others have refused to embrace the need for change or possibly have been unable to do so. Lastly, it should be noted that this investigation also has recognized that interviewees' ability to recount the process of industry transformation is invariably contingent on their depth of knowledge of, or their ability to recollect past events. Thus the above final selection of interviewees has taken this consideration into account by identifying a number of long established firms and individuals who have been long affiliated with the industry sector.

The following section of this Chapter discussion introduces the last of the two research fieldwork stages. This second stage consists of a cognitive-mapping exercise that has been greatly credited to the multi-dimensional structure of the above semi-structured questionnaire (Tbl. 4.2) and the effective use of the abovementioned 'adaptive-theory' approach. The results of this exercise also have been consistent with the 'critical realist' underpinning of this adopted approach. In other words, interviewees' reoccurring references to change in their responses to the semi-structured questionnaire are subsequently recast as a set of new generalizations through a cognitive mapping of their perceptions of industry and regional transformation. The remaining sections provide an overview of the three distinct stages of this cognitive mapping exercise (hereafter noted as Multi-Dimensional Scaling).

4.3.2 Doing an MDS

Multi-Dimensional Scaling (MDS) is a mathematical operation that can be run using algorithms (e.g. ALSCAL, PROXSCAL) available in SPSS[34]. It is a methodological tool. Though, when linked to a wider methodological approach, such as the adopted 'adaptive-theory' approach for this investigation, it provides a unique complementary addition to a well substantiated research argument.

MDS has its roots in organizational psychology albeit an underrepresented tool in its generating field of research; and it is a largely unused or unknown methodological tool among organizational research by social scientists in planning and development studies. This unique methodological tool has provided this investigation of change in the process of industry transformation with the means to administer a simple behavioural study of the respondent data collected in the field, having offered the means to generate cognitive maps. More importantly, it has made this cognitive mapping study possible without having had to conform to traditional

[34] The MDS study administered for this research investigation has been run on SPSS 14.0. Earlier versions of PROXSCAL, ALSCAL, is available in earlier editions of SPSS

survey sampling procedures typically required for statistical reliability (Ferguson and Kerrin 1997). That is, as few as five subjects in a comparative study of perceptions and attitudes by different individuals or groups of individuals can be reliably used in an MDS operation.

The MDS operation for this investigation consists of three distinct stages, having used the respondent data from the previous semi-structured interviews to help facilitate a more systematic look at agents' perceptions of change (see Chapter 7 for discussion of MDS outputs). It has calculated a total of nine conditions or MDS 'statements' in this final stage of the fieldwork, including the anchor concept of change. Together these nine 'statements' constitute the extents of the MDS questionnaire (Tbl. 4.5).

In order to study the interrelationships of these statements, stage two of this MDS operation has arranged all nine 'statements' into a questionnaire of 36 individual pairwise comparisons (Ross 1934, Tbl. 4.6). The resulting MDS questionnaire has been taken back to the respondents, who have been asked to assign each of the pairwise comparisons a value between 1 and 9 (1 = greatest possible correlation or 'similarity' between any two statements; see Annex, Tbl. A4.1 for MDS questionnaire). Once the results of the MDS questionnaire have been collated and structured into 'similarity' matrices (Tbl. 4.7), the data is ready to be run and analyzed on PROXSCAL (SPSS) in the last and third stage of this exercise. This analysis stage, in turn, has generated a series of two-dimensional geometric depictions or 'maps' of the relative positions of each of the MDS statements, including the anchor concept of change. The resulting cognitive maps consequently have provided a unique insight into the manner in which agents' relate their perception or reasoning of change to several potentially contributing conditions and outcomes of industry transformation and institutional change. A more detailed discussion of each of the above three stages and its results are provided below.

4.3.2a Stage 1: Knowledge Elicitation and Generation of MDS Statements

The MDS routine is a relatively straightforward operation, which is able to graphically represent psychological space. MDS can be administered in several different ways. The following three stages are primarily inspired on the works of Kerrin and Hone (2001) and Ferguson and Kerrin (1997). In the following first stage of the MDS exercise, a number of 'statements' have been determined from the interviewees' reoccurring references to determinants of change in their responses to the semi-structured questionnaire (research fieldwork stage, see Sec. 4.3.1, and Tbls. 4.2 and 4.5). For instance, there were regular references to the role of 'learning' in the process of industry transformation - that is the development and exchange of knowledge through partnership. Other references included a more open industry, suggesting increased trust or collaboration among agents across different 'realities' or operational spheres within which agents interact.

Table 4.5 MDS statements: dimensions of perceived change

Outcomes dimension - 'External/Contingent' Relations ('Intransitive')	
1. A more 'open' industry	**OPENNESS**
2. Unemployment and uneven business development	**DEVELOPMENT**
3. Better work conditions and increased work flexibility	**FLEXIBILITY**
'Industry-Regional Resource Accessibility' dimension - 'Internal/Necessary' Relations ('Transitive')	
4. Collective bargaining agreements	**RELATIONS**
5. Technical training deficit	**TRAINING**
6. Selectivity of financial incentives systems and its associated policies	**SELECTIVITY**
'Agent-Environment Interactivity' dimension - 'Internal/Necessary' Relations ('Transitive')	
7. Greater 'functional proximity' and 'learning' between institutions and businesses	**LEARNING**
8. State regulation and influence	**REGULATION**
Anchor concept:	
9. *'Change'- brief characterization of 'change' in the leather footwear sector*	**CHANGE**

Source: Author

At this stage of the exercise, it had become increasingly evident that these reoccurring references to change in the process of industry transformation or 'statements' would need to be studied more closely. The challenge would be to map the interrelationship of the 'statements'. This problem has been two-fold. The first has been to identify agents' differing conceptualization of change through their recollection of industry transformation and their role in it. And, second, to establish or elucidate the probable links between agents' differing perceptions of change and the development and practical use of their knowledge of it. The first part of this challenge has been essential because the cognitive-mapping exercise would fail without a systematic means for conceptualizing agents' perceptions of change. In other words, a systematically objective generation of differing interrelationships between 'statements' across all twelve interviewees has been imperative; otherwise the exercise would have been overwhelmingly subject to the author's interpretation.[35] Once the 'statements' had been identified, the next stage in the MDS exercise has required the design of an MDS questionnaire to which I turn next.

[35] The outputs of this MDS exercise have been presented and interpreted in Chapter 7. However, this interpretative element has occurred after the completion of the exercise. Whereby, the degree of interpretation has helped to explain or elucidate apparent links between agents' perceptions of change (i.e. the cognitive maps of the interrelationships of MDS statements for each interviewee) and the pre-determined dimensions of change (see Sec. 4.3.1b). This process has been distinct from, and in support of a conceptualization of change in the Portuguese footwear industry in Chapter 8.

4.3.2b Stage 2: MDS Questionnaire Design

The MDS questionnaire is relatively simple. But its design is not immediately clear to the first-time user; that is, the questionnaire must be designed to generate data that can be used with the PROXSCAL programme on SPSS; and this first requires some knowledge of the programme itself as well as an ability to understand and interpret its outputs.

The overall objective of the MDS questionnaire has been to collect interviewees' valuation of the correlation or 'similarity' between varying pairs of MDS 'statements'. As illustrated in Table 4.5, stage 1 of this MDS exercise has identified eight 'statements' onto which the concept of change is included as an 'anchor' and ninth 'statement'. In this stage of the MDS exercise, the task has been to order the nine MDS statements in pairwise comparisons in order to test their relative interrelationships. With the help of a published work by Ross (1934)[36], nine objects of study can be arranged into 36 individual pairwise comparisons (Tbl. 4.6). On the basis of this work, the nine 'statements' (numbered 1-9) have been arranged into 36 pairs of 'statements' for which each pair has been assigned a Likert-type scale, ranging from 1-'not similar' to 9-'completely similar' (see Annex, Tbl. A4.1). Once in the field, the MDS questionnaire has been used to systematically collect the interviewees' understanding of the degree of 'similarity' between each of the 36 pairs of 'statements', generating a numerical equivalent of agents' understanding of the varying interrelationships between the identified MDS 'statements'. Once inputted into SPSS, PROXSCAL (an algorithmic routine) uses these values to plot a two-dimensional geometric representation of the optimal relationship between 'statements'; that is, a cognitive map of agents' understanding of the interrelationship between different 'statements' and their likewise relationship to the anchor concept of change.

Lastly, there are a couple of unique aspects of this second stage of the MDS exercise worth mentioning. The first concerns the anchor concept of change. Before asking interviewees to rate the MDS 'statement' pairs for their 'similarity', each has been asked to provide a brief characterization of change in their own words; this has provided each exercise with a hand written account of change against which to assess the remaining MDS 'statements' relative to the anchor 'statement' (see Annex Tbl. A4.2a-l). The second point concerning the MDS exercise involves its ability to surpass interviewees' individual spin on semi-structured interview questions; that is, the MDS questionnaire restricts each interviewee to a given pair of 'statements', making it difficult for them, even those politically savvy ones, to decipher the author's underlying research agenda.[37] In other words, the contents of some 'statements' are political; and select interviewees have downplayed some factors or outcomes of change in

[36] See Kerrin & Hone (2001) for a similar application of the Ross table.

[37] Consider MDS 'statement' '4' (Tbl. 4.5) for instance: this 'statement' is paired with eight others (see Tbl. 4.6, col. N=9), making it difficult for a business association to outright discredit the contribution of industry labour relations over other factors of industry transformation. For instance had it had been asked to comment on the role of labour unions, labour relations may have been marginalized under greater regard for the immediate concerns with 'innovation' and 'competitiveness'.

order reinforce or legitimize their role or influence over the process of transformation in the industry and region (see Chapter 6 for full discussion).

Table 4.6 Formulation of pairwise comparisons

N=5	N=7	N=9	N=11
1-2	1-2	1-2	1-2
5-3	7-3	9-3	11-3
4-1	6-4	8-4	10-4
3-2	5-1	7-5	9-5
4-5	3-2	6-1	8-6
1-3	4-7	3-2	7-1
2-4	5-6	4-9	3-2
5-1	1-3	5-8	4-11
3-4	2-4	6-7	5-10
2-5	7-5	1-3	6-9
	6-1	2-4	7-8
	4-3	9-5	1-3
	5-2	8-6	2-4
	6-7	7-1	11-5
	1-4	4-3	10-6
	3-5	5-2	9-7
	2-6	6-9	8-1
	7-1	7-8	4-3
	4-5	1-4	5-2
	3-6	3-5	6-11
	2-7	2-6	7-10
		9-7	8-9
		8-1	1-4
		5-4	3-5
		6-3	2-6
		7-2	11-7
		8-9	10-8

Continued

N=5	N=7	N=9	N=11
		1-5	9-1
		4-6	5-4
		3-7	6-3
		2-8	7-2
		9-1	8-11
		5-6	9-10
		4-7	1-5
		3-8	4-6
		2-9	3-7
			2-8
			11-9
			10-1
			6-5
			7-4
			8-3
			9-2
			10-11
			1-6
			5-7
			4-8
			3-9
			2-10
			11-1
			6-7
			5-8
			4-9
			3-10
			2-11

Source: Ross (1934)

4.3.2c Stage 3: Input and Output Analysis

Once the MDS questionnaire data is collected, all that remains is the input of the results into SPSS (see Annex, Tbl. A4.2a-l for questionnaire results). The input of the MDS questionnaire results must be inputted into SPSS as a matrix in order for PROXSCAL to accurately run the MDS routine and generate the MDS cognitive maps. As noted earlier, this last stage of the MDS cognitive mapping process has entailed the arrangement of respondent data into ‘similarity matrices’. Essentially this has entailed listing the MDS ‘statements’ (Tbl. 4.5), which are numbered consecutively from 1 to 9, into a 9X9 matrix layout – from top-to-bottom and left-to-right (Tbl. 4.7); the 36 values corresponding with each of the 36 individual pairwise

comparisons of the 9 MDS 'statements' in the MDS questionnaire subsequently have been inputted into the matrix where the corresponding row and column numbers intersect.[38]

Table 4.7 Sample MDS similarity matrix for one individual (low number=similar)

	OP	SE	REG	LE	REL	DE	FL	TR	CH
OPENNESS (OP)	.	.	.	.	.	.	.	.	.
SELECTIVITY (SE)	7	.	.	.	.	.	.	.	.
REGULATION (REG)	8	1	.	.	.	.	.	.	.
LEARNING (LE)	5	8	5	.	.	.	.	.	.
RELATIONS (REL)	6	7	3	6	.	.	.	.	.
DEVELOPMENT (DE)	3	2	5	5	3	.	.	.	.
FLEXIBILITY (FL)	7	2	1	3	2	2	.	.	.
TRAINING (TR)	4	2	6	3	7	1	1	.	.
CHANGE (CH)	2	1	7	2	3	6	1	2	.

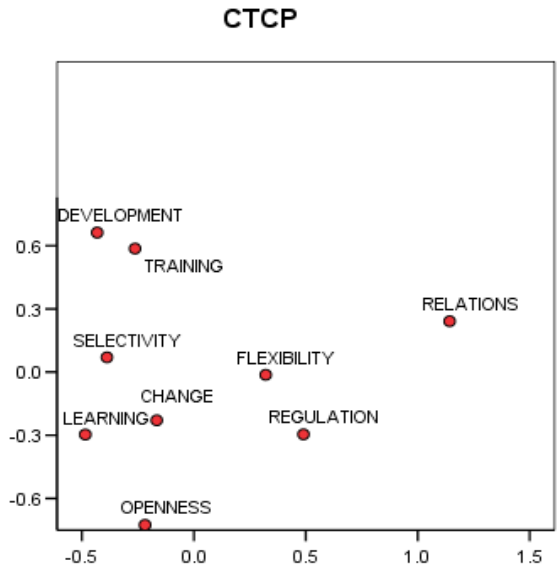
Source: Author

The MDS routine (PROXSCAL) result is a two-dimensional output or mapping of the relative interrelationship between all nine MDS 'statements'. Whereby, the more similar any one statement is to another, the closer the two statements are when represented in geometric space (Kerrin and Hone 2001: 204-5, cf. also Fig. 4.1 and Chapter 7 for presentation and discussion of MDS cognitive maps). These cognitive map outputs of the MDS routine later can be assessed for their reliability according to two of the available 'goodness-of-fit' statistics.[39]

[38] Separate matrices are created for each of the interviewees.

[39]The most commonly known 'goodness-of-fit' statistic is the '*S-stress*'; it is generally accepted that a reliable map will have an '*S-stress*' of less than 0.1 and no greater than 2.0 (Ferguson and Kerrin, 1997: 207-208, 211); '*S-stress*' is commonly broken down as: 0.00 – perfect; 0.025 – excellent; 0.05 – good; 0.1 – fair; 0.2 – poor (MDS not recommended; stress values > 0.2 are unacceptable). Complementary to the '*S-stress*' statistic is the R^2, which should be greater than 0.8 and approaching unity (1.0); the R^2 is found in an earlier version of PROXSCAL known as ALSCAL. However, a similar statistic is used in PROXSCAL, which is known at Tucker's Coefficient of Congruence (TCC); see Figure 4.1 for example of 'goodness-of-fit' statistic.

Figure 4.1 Sample MDS Cognitive Map



4.4 CONCLUSION

This chapter has outlined two qualitative studies that reinforce one another. Each of these studies has involved a distinct stage of the fieldwork for this investigation. The first stage of the fieldwork has compiled a dataset of industry firm and funding data from which an informed semi-structured interview process has been carried out. The second stage of the fieldwork has built upon respondent data from the first stage (see Sec. 4.3.1) vis-à-vis an MDS cognitive-mapping exercise (see Sec. 4.3.2). Both stages hinge on an 'adaptive-theory' approach, which has argued for the use of 'extant' data and theory at the outset of the research fieldwork (Sec. 4.2).

The 'adaptive-theory' approach to this research fieldwork has involved two particular pieces of 'extant' knowledge. The first has been the use of the abovementioned dataset of industry firm and funding data to help identify interviewees. And the second piece of knowledge has been the adaptation of an 'agent-centred' perspective upon which this investigation has been partly structured. The incorporation of both pieces of knowledge at the outset of the fieldwork has ensured that as much of the theory-generation is done during the research process itself.

Also, it is important to note that this approach has been underpinned by a critical realist understanding that maintains there is a 'world' or 'reality' independent ('intransitive') of our understanding and experience of it ('transitive'). This consideration of the 'intransitive' and 'transitive' objects of science has been especially useful in the treatment of a social phenomenon as 'change' through the collection of data on differing agents' understanding and

knowledge of industry transformation (see Sec. 4.1, and Chpt. 6 for full discussion). In other words, both ‘intransitive’ and ‘transitive’ objects of investigation coincide with ‘external/contingent’ and ‘internal/necessary’ social relations, respectively. For this reason, it has been essential to maintain a clear distinction between the two sets of social relations; as noted earlier in the chapter, for instance, the global market volatility of rapid changes in consumer trends and the concentration of TNC-controlled commercial markets can be understood effectively as a set of ‘external/contingent’ relations (an ‘intransitive’ reality), simultaneously affecting a number of local, regional and national contexts within which ‘internal/necessary’ relations (‘transitive’ realities) reflect agents’ differing experience or understanding of external/contingent factors at different levels of interactivity. Thus, in turn, the above ‘critical realist’ treatment of ‘change’ has helped to elucidate the probable links between agents’ perceptions, or understanding and experience of change on the one hand, and the development and practical use of their knowledge of it on the other.

Chapter 5 Innovation and 'Change' in the Portuguese Footwear Industry

5.1 INTRODUCTION

This chapter identifies two distinct facets of the political-institutional environments through which Portuguese footwear industry transformation has been manifest. The first of these facets examines innovation-enhancing institutional formation in the Portuguese round about to science-technology and innovation policy (hereafter referred to as S&T/I policies). The second facet considers the parallel albeit inter-related (re)institutionalization and restructuring of the Portuguese footwear industry. Together both facets introduce the subject or case study of this investigation through an integration of 'extant' data on industry firms and EU/State funding to the industry (see Sec. 4.2 for full discussion).

The Portuguese footwear industry is an exemplary case of industrial transformation, which has been evidenced in the industry initiatives associated with its transformation—informed through national policies as well as through industry and regional strategies. Though, with regard to the interrelatedness of both innovation impetus and transformation-associated change in the industry, this investigation has sought to *avoid* confusing a characterization of change with that of innovation (Sec. 1.2.1). In other words, whilst taking the first steps in accordance with an 'adaptive theory' approach, this chapter additionally takes on the wider objective and challenge of characterizing change in the space of industry-regional transformation. In the first instance, this has been achieved through a dual consideration of innovation-enhancing institutional formation on the one hand and an account of history and industry-regional transformation on the other. Who are the agents of change? Is policy a contributing factor? More importantly, how is the space of transformation or the relational space of agent interactivity bound up in history? And what implications does this have for the 'storyteller'?

The above dual consideration has been reasoned on a 'total history' of change, associating the space of industry-regional transformation to any number of individuals, events and institutions, and ensuring that change and innovation are not necessarily interchangeable (Le Goff 1978, Le Goff and Nora 1985, see also Chapter 2). This adopted conceptualization of 'history' has been a key understanding that fuels the overall objective of this investigation, which has aimed to elucidate the probable links between agents' perceptions or understanding of change on the one hand, and the development and practical use of their knowledge of change on the other.

Once more this chapter also articulates a political-institutional backdrop for subsequent chapters on the theorization of multi-agent reasoning of change and the means through which industry and regional agents' knowledge of it has been produced and translated into everyday practice. This discussion begins with the above consideration of innovation-enhancing

institutional formation in the round about to S&T/I on the one hand (see Secs. 5.1.1 and 5.2) and a conceptualization of 'history' in the parallel albeit inter-related process of (re)institutionalization and restructuring in the Portuguese footwear industry on the other (see Secs. 5.1.2 and 5.3). Together both facets provide a fitting political-institutional precursor to the systematic treatment of fieldwork data in subsequent chapters (Chapters 6 and 7). That is the theorization and discussion of multi-agent reasoning of change, and the means through which business and public agency knowledge of change has been produced and translated into everyday practice.

5.1.1 Round About to Science, Technology and Innovation Policy in Portugal

The historical development of the Portuguese footwear industry is far from uniform. An historical appreciation of the industry's integration of micro family-owned business and subsistence farming into informal household economic conditions, recurrent rounds of economic depression and boom, government instability, late industrialization and domestic market liberalization, foreign direct investment and divestment, subcontracting and internationalization of production, 'Europeanization' of industrial policy, and steep technological learning curves and an ever growing appreciation for the institutionalization of innovative activity have all contributed to differing rates of development within the industry. Any characterization of the Portuguese footwear industry under one model of development would be erroneous at best. Therefore, a study of the multi-jurisdictional space of transformation must ensure that a conceptualization of change in the Portuguese footwear industry has been considerate of intersecting and/or parallel processes of historico-political and regional change (see Sec. 2.3).

These differentiated factors have become evident in the industry promotion efforts of 'explicit' and 'implicit' industry cluster initiatives that have taken the form of national industry policies, and industrial strategic plans and industry-tailored innovation and performance studies, respectively (Fromhold-Eisebith and Eisebith 2005). These initiatives also have coincided with strategically targeted national funding from various innovation-enhancing and technology-driven industry initiatives as well as industry training and national planning frameworks. Thus in light of these differentiated factors of both transformation-associated change and innovation-driven cluster initiatives, this investigation has sought to *avoid* confusing any characterization of change with that of innovation (see Sec. 1.2.1).

Early efforts to avoid confusing the inter-changeable qualities of change and innovation in a close scrutiny of Portuguese footwear industry cluster studies and initiatives have illustrated that only a relatively slight recognition has been made of the historical forces of change in the industry's transformation. In fact, the case of the Portuguese footwear industry has been

extensively studied for the purposes of policy promotion (Me 2002, 2001, 1997) and policy assessment (Fesete 2005, Oefp 2000), monitored for industrial promotion purposes (Apiccaps 1999, 1997, 2003), and assessed for its future stake in the economic structure of the country and wider global markets (Castro *et al.* 2004, Icep 1998, Melo and Duarte 2001) as well as for vocational and professional training aims (Iafe [ca. 2003], Inofor [ca. 2002]).

Instead, these industry studies and initiatives typically credit a firm's ability to adapt to new technologies, a capacity for innovation-oriented institutional collaboration, and an effective use of financial incentives with the successful processes of industrial transformation and increased regional competitiveness. Though, the achievements of this process of technological and regional upgrading cannot be the sum of an industry's transformation and its implicit contribution to regional development. First, it would directly associate innovation and change for an eschewed characterization of the industry or region not to mention that evidence-based interpretations of change are never value-free. That is, the tension between personal or organizational accounts of what has likely happened, and what is more desirable and tolerable from the standpoint of different assumptions about the evidence of change can be interest driven as well as externally influenced.

In other words, the interrelations between an individual agent and external factors availingly draw our attention to the manner and degree to which change has been identified and managed by various actors as a contextualized process of transformation across time and space. This casts light on the direct and indirect links between agents' 'operational jurisdictions' *and* its intersection or co-placement with other functionally differentiated spheres of interactivity or operational spheres within a multi-jurisdictional space of transformation (see Chapter 6 for discussion). In the words of Nigel Thrift (1983) the problem of recounting change is to examine transformation in way that 'neither reduces [social] interaction to the exclusive and mechanical effects of structure nor reduces structure to the accomplishments of actors, or the outcome of their interactions'.

This concludes the introductory forward on the first of two facets of political-institutional environments through which Portuguese footwear industry transformation has been manifest. This current introductory section has been elaborated in Section 5.2, outlining the seemingly round about 'institutionalization' of S&T/I policy. This meandering pursuit of S&T/I policy has witnessed historical periods of political destabilization and the reorganization of State powers, which consequently have departed from previously more territorially articulate policy concerns over regional development issues; that is, an apparent 'divide' between science and technology policies on the one hand, and enterprise and industrial policies on the other. This first facet has been attributed, in part, to a degree of international persuasion through financial transfers and 'theory led by policy'(Lovering 1999), and Portugal's sense of having had to

balance international political pressure on the immanent need to embrace neo-liberalism with its social model during preparations for European accession[40].

The following section introduces the second of the above two facets, bringing the above consideration of the round about to S&T/I (facet one) to further explore the parallel albeit inter-related process of (re)institutionalization and restructuring in the Portuguese footwear industry on the other (facet two).

5.1.2 Transformation and Cognitive Spaces of Agency in the Portuguese Footwear Industry

Technology-led industry change in the space of Portuguese footwear industry transformation was prompted by the increased presence and strength of S&T/I policies in State industry initiatives. In fact, the increased presence and strength of S&T/I policies has become apparent in recent policy and discursive developments behind a growing intensification of geo-political discourses on technological innovation, and the necessary competency in design among other professional skills since the mid to late 1980s. In Portugal, these developments have been largely passed down through European structural funds and its agendas on economic growth and competitiveness, and increased industrial workfare. Though whilst current and perceived future market pressures from expanding services sectors and Asian competition on traditional manufacturing industries have intensified geo-political discourses on technological innovation and continuous learning, an equal if not greater concern lies with the less desirable effects of industry restructuring that is often associated with factory closures and subsequent increases in unemployment, and its debilitating social and economic implications for local and regional development.

Consequently, the multiple effects of divestment, of internationalization of businesses and markets, and of employment shifts or the increase of part-time work and contractual flexibility in addition to newly adopted technologies and their structural effects on production processes in Portugal has contributed to the use of various 'crisis' narratives for justifying necessary change, and has motivated the institutionalization of work practices[41]. This restructuring and (re)institutionalization of the Portuguese footwear industry has been concomitant with the round about to S&T/I policy in Portugal. And in this second facet of the political-institutional context of Portuguese footwear industry transformation, the impacts of divestment, internationalization, technological development and labour market restructuring can be manifest in both tangible and intangible dimensions of social and economic life—from the

[40] How to best go about accounting for numerous structural factors in historical narratives of industrial transformation can draw on the large body of theoretical work on structure, agency, consciousness or identity, and its wider implications for understanding society and change. See also Bourdieu (2005), Giddens (1984) and Scott (2001), and Chapter 3 for discussion.

[41] See Chapter 2 for discussion of theoretical treatment of organizations, institutions and institutionalization.

measurable effects on national economic growth and productivity to the qualitative aspects of living and working conditions across social groups and whole territories. Once again, this recognition of the multi-jurisdictional space of industry-regional transformation must ensure that a conceptualization of change in the Portuguese footwear industry has been considerate of intersecting and/or parallel processes of agent interactivity.

Section 5.3 elaborates on this political-institutional facet. It highlights the (re)institutionalization of footwear industry practices, beginning with industry organizations institutionally rooted in State powers over national industry practices. As the Portuguese State has undergone periods of political destabilization and (re)institutionalization of State powers, its round about pursuit of S&T/I policy has been concomitant with the restructuring and (re)institutionalization of footwear industry practices. Over the course of Portuguese footwear industry transformation, differing perceptions of change or cognitive spaces of agency have begun to emerge. In fact, the use of 'crisis' narratives of industrial collapse, during this concomitant process of restructuring and (re)institutionalization of footwear industry practices, has been a characteristic aspect of these differing perceptions and cognitive spaces of agency vis-à-vis politically-charged discursive mechanisms of industry influence and promotion (e.g., industry reports and strategies). This is a particularly important aspect of the institutionalization of footwear industry practices, which has coincided with the political-institutional context that fuelled the round about to S&T/I policy developments in Portugal since the late 1960s.

The following two sections (Secs. 5.2 and 5.3) elaborate on the multi-jurisdictional space of Portuguese footwear industry transformation, offering further detailed insight into the abovementioned facets of political-institutional environments through which this transformation has been manifest.

5.2 ROUND ABOUT TO SCIENCE, TECHNOLOGY AND INNOVATION POLICY IN PORTUGAL

Notwithstanding the long Portuguese tradition of scientific ingenuity in the twentieth century (Brito *et al.* 2002), science and technology policy was late coming. This late emergence of science and technology policy, and more 'explicit' forms of innovation policy recently partly was due to Portugal's latecomer process of industrialization.[42] Along the path of international corroboration with EFTA, NATO, IMF, OECD and the European Communities Council until its accession to the European Union in 1986, Portugal witnessed incremental liberalization of

[42] This latecomer process of industrialization has been largely attributed to the four decades of protectionist industrial policy by the conservative Salazar regime (1928-1974).

domestic restrictions on imports or import substitution, increased awareness of the importance of scientific research and development, and macroeconomic stabilization.

Gonçalves *et al.* (2000) attribute the country's latecomer situation with missed opportunities during the industrial revolution of the mid- to late-19th century—among other factors that will be discussed further along in this chapter. But the process of industrialization in Portugal merits a more nuanced consideration in order to fully appreciate later successions of industrial, and science and technology policy. Before proceeding on this point, however, there is a process of phased industrialization briefly worth mentioning, which partly explains occasional assertions on the 'backwardness' of national development (Confraria 1999).

Confraria (1996) provides four distinct industrialization phases in Portugal: the first is aptly referred to as the 'industrialization' phase (1930-early post-war, late 1940s-1950s), which largely accounts for Salazar's conservative Novo Estado regime (1928-1974). This phase has been characterized as the period of highly protected domestic markets and the establishment of hierarchically stratified corporatist institutions according pre-selected economic activity. This phase was followed by one of 're-industrialization' from the early 1960s until the mid-1970s, which exhibited some of Portugal's highest economic growth rates (1950-1973). The third phase of 'neo-industrialization' began in the early 1980s at the advent of Portuguese accession to the EU, following a brief interruption as a result of the Carnation revolution in 1974. This has been succeeded by to the fourth and final phase of 'process management' (1986-), which has been largely geared to the management of European integration through administration of European structural funds.[43]

In continuing this chapter's efforts to fully communicate the successive developments of industrial, science and technology policies, it has been important to consider the round about to S&T/I policy in Portugal within the broader context of its industrialization. This consideration is substantiated in recent accounts of the late emergence of science-technology policy and more recent efforts toward integrated innovation policy, which has been attributed to government inter-departmental disagreement and political instability (Goncalves *et al.* 2000,

[43] It safely can be assumed that this latter phase remains in place. But what is most interesting about Confraria's (1996) historical depiction of late industrialization in Portugal is his reflection on competitiveness. As noted earlier, the economic growth rates between 1950 and 1973 were greater than the European average. And while rates were higher than average between 1988 and 1990, a wider look at the period between 1986 and 1992 exhibits rates below those achieved in the 1960s (industrialization), and the period immediately following the Carnation revolution from 1974 to 1985 (neo-industrialization) which was experiencing the shock of the 1973/74 oil crisis and an acute political instability of a post-revolutionary State. In light of these developments, Confraria (1996: 153) goes further to raise doubt concerning the competitiveness gains from EU accession. In turn, this, itself, raises some considerable doubt. Lest it be forgotten, the full brunt of civic desperation under the Novo Estado regime had led to mass emigration and a sense of helplessness. Moreover, the vain military campaign against nationalistic uprising in its colonies (1961-1974), which was likely fuelled with fiscal gains from the regime's joining of EFTA in 1960, backfired, resulting in thousands of Portuguese nationals seeking refuge in Portugal. The swells of colonial war refugees were compounded by limited work and depressed wages. The ample labour supply, desperate socio-economic conditions among the working classes, low wages and the relatively increased opportunities for selected industries through EFTA contributed to the increased economic growth rates.

Godinho *et al.* 2000). As a matter of fact, Portugal is no stranger to political instability; the constitutional frameworks for economic development underwent three distinct periods in the twentieth century with the constitutions of 1911, 1933 and 1976 as the result of the Republican, the military coup of the Estado Novo, and the Carnation revolutions respectively.[44] More recently, Portugal has witnessed the changeover of four constitutional government mandates between 1999 and 2005 due to political forfeits and forced early elections, with the Socialist Guterres Government mandate longest running (1999-2002).[45] António Guterres held the seat of Prime Minister for a combined period of seven years (1995-2002). But it was the Socialist Democrat Cavaco Silva (1985-1995) who held the first and last political stronghold of any Portuguese party since the Carnation revolution (1976) with two full consecutive terms in government.[46]

Furthermore, the events that have contributed to the late emergence of S&T/I policy are not the least bit an 'endogenous' and 'evolutionary' development. Instead, this late emergence has been more akin to a multi-faceted process of national and international institutions, national socioeconomic conditions, and future desires for macroeconomic stabilization and conditional economic support from international organizations. And the recent process of a national institutionalization of increased political awareness of the contribution of science and innovation governance to economic modernization and competitiveness has been one of some degree of path dependence, though roundabout at best.

The following sections take a deeper look into the developments of this S&T/I impetus, which has been claimed by some to lack an integration between industrial and enterprise policies on the one hand, and science and technology policy on the other hand (Ec 2005, Godinho *et al.* 2000, Goncalves *et al.* 2000). In an extended look into this context, this Chapter has offered a close examination of national attempts at a more integrated innovation policy. The following two sections have articulated the developments of this S&T/I impetus for a broader appreciation of the political-institutional context through which footwear industry transformation has been manifest. They have identified the stage during which the current technologically determinist nature of S&T/I policies have parted with previously more territorially articulate concerns over regional development issues. Again the following sections have illustrated how the above policy developments have been associated to Portugal's previous international corroboration with financial institutions, and the country's sense of

[44] Prior to these developments the first constitution (1882) of the Portuguese monarchy was substituted in 1826 and again in 1838 after the Portuguese civil war (1828-1834).

[45] Though, the Guterres Government was cut short due to its political forfeit after the Socialist Democrats regained power in the primary local elections, forcing premature general elections and a reinstatement of the Socialist Democrat Party under Durão Barroso albeit short-run (2002-2004)

[46] This period succeeded a nine year streak of political instability and disagreement with nine constitutional governments after the provisionary governments immediately following the Carnation revolution in 1974 (1976-1985).

having to balance indiscriminate political pressure on the immanent need to embrace neo-liberalism with its fledgling post-revolutionary (post 1974) social model.

5.2.1 Science, Technology and Innovation Policy: Institutionalization, Consensus and Spatiality

The institutionalization of S&T/I policies in Portugal has reflected the extent to which public value of scientific research has been interiorized by national political structures. The relatively late institutionalization of science and technology in Portugal and the pace of its development toward greater policy consensus have been attributed to the country's late industrialization and political instability. It has been further suggested by Gonçalves *et al.* (2000) that the developing institutional model has been relatively 'fragile' compared to the circumstances that have brought about this process in other countries. The authors imply that Portugal's relative weakness with respect to its ability to exploit prowess in, and engender a culture of science as well as to recognize its public value has been an ongoing contributing factor in this fragility (See also Oct 2000).

The creation of the Junta Nacional de Investigação Científica e Tecnológica (hereafter JNICT)[47] in 1967 and the establishment of the Portuguese Ministério de Ciência e Tecnologia (hereafter MCT)[48] in 1995 were two key historical references to the early development of science and technology policy in Portugal. Apart from their activities during two distinct moments in the country's political history, they provide significant insight into the institutionalization and subsequent internationalization of science and technology policy in Portugal.

The OECD recommended establishment of JNICT followed a long period of institutional transformation dating back to 1929 with the Junta Nacional de Educação.[49] Prior to JNICT, there had been no systematic collection of data on science and technology indicators; data was first available in 1964 as a result of the first inquiries into this area by the Instituto Nacional de

[47] National Science and Technology Research Board
[48] Ministry of Science and Technology
[49] JNICT emerged from a long string of public organizations and institutions, surviving the revolution of 1976 and managed under different departmental responsibility through successions of governmental change until it was substituted by the Ministry of Science and Technology (MCT) in 1995; JNICT was decommissioned in 1995 and restructured into three separate organizations administered through MCT: Foundation for Science and Technology (FCT), Observatory for Science and Technology (OCT)—renamed Observatory for Science and Higher Education (OCES) in 2002 with the inclusion of new responsibilities over higher education at the ministerial level which subsequently had its name changed to the Ministry of Science, Technology and Higher Ed. (MCTES)—and Institute for International Cooperation on Science and Technology. The Junta Nacional de Educação of 1929, which solely focused on scientific and technological research in the universities, was transformed into the Institute of High Culture in 1936. Thirty years later it was substituted by the Junta Nacional de Investigação Cienífica (JNIC) in 1967 subsequently renamed Junta Nacional de Investigação Cienífica e Tecnológica (JNICT) in 1992.

Estatística (INE)[50] in 1966/67—the responsibilities for which were only subsequently transferred to JNICT in 1972[51].

This late 1960s period was marred by the return of national refugees during the Novo Estado's vain military campaign in the Portuguese colonies (until 1972), subsequently followed by the Carnation revolution in 1974. Yet this period also marked two contributory developments toward the institutionalization of Portugal's science and technology policy: INOVTAN, from which the NATO-financed Programa Ciência para Estabilidade[52] was launched in 1970, and the international partnership agreement CONCEDE[53] through which Portugal took part in COST[54] in 1971.

These early developments of institutional remits over national S&T policy and monitoring have reinforced how the emergence of Portuguese S&T policy has been the interiorized result of supranational (e.g. EFTA, NATO, IMF, OECD and the European Communities Council) corroboration of scientific and technological agenda through international financial support. And how it should not be limited to a 'path-dependent' evolution of JNICT's institutional remit over S&T, notwithstanding its early role in the first systemic intervention of Portugal's science and technology policy through the Programa Integrado de Desenvolvimento Cientifico e Tecnologico (PIDCT) in 1977 (Goncalves 2000: 26-27).

The political environment for scientific and technological development through international consortia, and substantially increased flows of R&D investment at this stage in the late 1970s and in the years leading up to European accession was unlike anything witnessed beforehand. The fledgling national system of science and technology (hereafter NSST) has been influenced by a succession of three Community Support Frameworks (hereafter CSF) (CSFI - 1989-1993, CSFII - 1994-1999 and CSFIII - 2000-06). Each of the frameworks have provided national incentives programmes for S&T out of the JNICT[55] Programa Operacional de Ciencia e Tecnologia[56] (POCT), for enterprise and innovation out of the Ministério da Economia[57] (ME) Programa Operacional da Economia[58] (POE) and for

[50] National Institute of Statistics
[51] These responsibilities remained with JNICT until 1996 when they became the sole responsibility of the Observatory for Science and Technology (OCT). See earlier note on JNICT for more on its organizational roots and subsequent transformation.
[52] Science for Stability Program
[53] Permanent Commission for Scientific and Technological Cooperation with the European Communities and OECD
[54] European Cooperation in Scientific and Technological Research; COST was later reorganized after Portugal's accession to the EU in 1986.
[55] The JNICT was decommissioned in 1995 and substituted by the Ministério de Ciencia e Tecnologia (MCT)
[56] Operational Programme for Science and Technolgy
[57] Ministry of Economy
[58] Operational Programme for the Economy; this Operational Programme was later referred to as PRIME in 2006

several European Community Initiatives.[59] The mix of incentives packages from the European Commission, and the Portuguese Ministérios de Economia, and Ciencia e Tecnologia (JNICT/MCT) between 1989 and 2006 had overlapping agendas on technological development, industry training and demonstration. This has raised considerable concern among footwear industry leaders with respect to successful tendering for EU/national funding of industry initiatives (C. Medon 2006, pers. comm., 06 February). In fact Portuguese footwear industry firms, for instance, have received a total of 71M€ during the first three CSFs for which a couple of points can be raised regarding the management of funds during this period from 1989 to 2006 (see Tbls. 5.1-5.5). The points worth examining include changes in the source of funding, changes in the distribution of funding across firm size and the number of recipient firms (Tbls 5.1-5.3), and changes to the total amount of funding to the sector and the share of that funding per recipient firm (Tbls. 5.4-5.5). A select number of these incentives packages have been revisited in later discussions on the emergence and development of science and technology policy in Portugal, and the concomitant institutionalization of the NSST.

The following two sections provide further insights into these developments. Section 5.2.1a discusses the apparent 'divide' between science and technology policies on the one hand, and enterprise and industrial policies on the other. The discussion is taken further to stress Portugal's departure from a previously more articulate concern with regional development issues during its round about to S&T/I policy (Sec. 5.2.1b).

[59] The European Community Initiatives included: STRIDE (1991-93); PNICIAP/SIBR (1986-93); STAR (1989-93); PRISMA (1989-93); TELEMATIQUE (1989-1993); RETEX (1994-99); ICPME (1994-99); Community Initiatives were available to Portugal during the first two CSFs only.

Table 5.1 Geographic distribution of Government Incentives from 1986- 94 (CSF I)

Footwear Sub-regions (NUTSIII)		CSFI Programmes / Community Initiatives (1989-1994)					
		PEDIP I (POE)	**PNICIAP**	**PRISMA** ‡‡	**STAR** ‡	**TELEMA — TIQUE** ‡‡	**Total**
Tamega	Recipient Firms	13	6	6	7	2	34
	Incentive ('000s€)	1,619.5	1,238.1	930.4	45.4	19.6	3,853.1
EDV	Recipient Firms	52	8	6	5	n.a.	71
	Incentive ('000s€)	6,577.3	640.6	602.2	46.7	n.a.	7,866.8
Ave	Recipient Firms	6	4	1	2	1	14
	Incentive (€)	728.5	1,406.6	171.7	5.3	21.3	2,333.5
Grande Porto	Recipient Firms	5	2	2	1	n.a.	10
	Incentive ('000s€)	773.5	1,515.1	99.5	0.6	n.a.	2,388.7
Baixo Vouga	Recipient Firms	1	1	1	1	n.a.	4
	Incentive (€)	4.4	21.3	125.4	2.0	n.a.	153.1
Others	Recipient Firms	10	7	2	n.a	n.a.	19
	Incentive ('000s€)	1,300.2	2,182.6	275.8	n.a	n.a.	3,758.5
Total	Recipient Firms	87	28	18	16	3	152
	Incentive ('000s€)	1,100.3	7,004.3	2,205.0	10.0	41.0	20,353.5

Source: Author compiled dataset and calculations from Government requested data

Table 5.2 Geographic distribution of Government Incentives from 1995-99 (CSF II)

Footwear Sub-regions (NUTSIII)		CSFII Programmes / Community Initiatives (1995-2000)					
		PEDIP II / PAEDIR (POE)	**ICPME** ‡‡	**RETEX** ‡‡	**P.O. PDDR** ‡	**I.O. ARU** ‡	**Total**
Tamega	Recipient Firms	39	4	13	3	n.a.	59
	Incentive ('000s€)	3,933.1	914.2	3,227.3	253.7	n.a.	8,328.3
EDV	Recipient Firms	23	n.a	22	1	2	48
	Incentive ('000s€)	1,331.5	n.a	3,706.1	209.8	372.5	5,619.9
Ave	Recipient Firms	14	n.a.	7	n.a.	n.a.	21
	Incentive ('000s€)	1,190.0	n.a.	412.8	n.a.	n.a.	1,602.8
Grande Porto	Recipient Firms	4	n.a.	2	1	n.a.	6
	Incentive ('000s€)	216.8	n.a.	209.1	146.1	n.a.	572.0
Baixo Vouga	Recipient Firms	1	n.a.	n.a.	n.a.	n.a.	1
	Incentive ('000s€)	176.7	n.a.	n.a.	n.a.	n.a.	176.7
Others	Recipient Firms	15	n.a.	8	n.a.	n.a.	23
	Incentive ('000s€)	1,917.1	n.a.	791.4	n.a.	n.a.	2,709.0
Total	Recipient Firms	96	4	52	5	2	159
	Incentive ('000s€)	8,765.2	914.2	8,346.7	609.6	372.5	19,008.2

Source: Author compiled dataset and calculations from Government requested data

Table 5.3 Geographic distribution of Government Incentives from 2000-06 (CSF III)

PRIME (POE)	Footwear Sub-regions (NUTS III)¥					
	Tamega	**EDV**	**Ave**	**Grande Porto**	**Others**	**Total**
Recipient Firms	9	23	3	1	6	42
Incentive ('000s€)	6,197.40	10,153.70	12,597.10	958.20	2,872.40	32,778.70

Source: Author compiled dataset and calculations from Government requested data

Table 5.4 Government Approved Incentives via CSFI-II—Comparison A

	CSFI - 1986-1994 (All Programmes)				CSFII – 1995-1999 (All Programmes)			
	Total Recipients in 1990				**Total Recipients in 2000**			
Firm Size	Firms	Emp	Total Incentive ('000s €)	Incentive p/capita ('000s €)	Firms	Emp	Total Incentive ('000s €)	Incentive p/ capita ('000s €)
1-9 Wkrs.	2	15	27.8	1.9	3	19	790.6	41.6
10-49 Wkrs.	32	1,199	1,274.5	1.1	29	911	2,426.2	2.7
5 -199 Wkrs.	64	6,440	5,229.2	0.8	81	7,311	6,563.1	0.9
>200 Wkrs.	44	19,855	12,287.3	0.6	28	17,535	7,104.4	0.4
Total of All Firm Entries†	**152**	**27,509**	**20,353.5**	**0.7**	**159**	**25,776**	**19,008.2**	**0.7**

Source: Author compiled dataset and calculations from Government requested data

Table 5.5 Government Approved Incentives via CSFII-III—Comparison B

	CSFII - 1995-1999 (All Programmes)				CSFIII – 2000-20006 (All Programmes)			
	Total Recipients in 2000				**Total Recipients in 2005**			
Firm Size	Firms	Emp	Total Incentive ('000s €)	Incentive p/capita ('000s €)	Firms	Emp	Total Incentive ('000s €)	Incentive p/ capita ('000s €)
1-9 Wkrs.	3	19	790.6	41.6	4	7	2,332.3	333.2
10-49 Wkrs.	29	911	2,426.2	2.7	13	344	1,083.1	3.2
5 -199 Wkrs.	81	7,311	6,563.1	0.9	17	1,504	12,025.5	8.0
>200 Wkrs.	28	17,535	7,104.4	0.4	6	4,345	14,685.5	3.4
Total of All Firm Entries†	**159**	**25,776**	**19,008.2**	**0.7**	**42**	**6,200**	**32,778.7**	**5.3**

Source: Author compiled dataset and calculations from Government requested data

Notes:

NB1 In some minor cases one firm may have more than one project for which it was approved.

NB2 All data listed for 'incentive' is for financial incentives 'approved' by the government as opposed to 'paid'; it was decided to provide the reader with this data so that it could be compared with the QCAI and QCAIII datasets that did not include 'incentive paid' data.

NB3 All data for QCAI, II, III is for ERDF funding to footwear fabricator (industrial classification: CAE 19301) only; FSE never produced the data that was promised.

† The discrepancy in firm numbers is due to missing employment data for some firm entries; when firm entries are queried by firm size (i.e. by the number employed), all entries without employment data are not taken into account. Therefore when the dataset is queried for the total of all firms (i.e. the total of ALL firm entries), of which some have missing employment data, this figure is higher than the total of all firms queried according firm size entries the figure is higher.

‡ PRISMA, STAR, TELEMATIQUE, PME and RETEX were all Community Initiatives.

§ The PAEDIR (1998-99) measure later was introduced into PEDIP II to encourage delocalization of firms to less-developed regions.

± P.O. is short for 'Programa Operacional', a programme which packages a number of sub-programmes, like that of PEDIP II for industry and their respective incentive measures, under a particular theme. The I.O. is short for 'Intervenção Operacional' and similar to the P.O. But it is less broad than the P.O, packaging only a specific set of incentive measures. The data for the P.O. and the I.O. was organized according to their respective sub-programmes and incentive measures; rather, the data was available as a sum of approved incentives under each. Also note that the I.O. ARU represents the combination of two interventions in the areas of environment and urban revitalization.

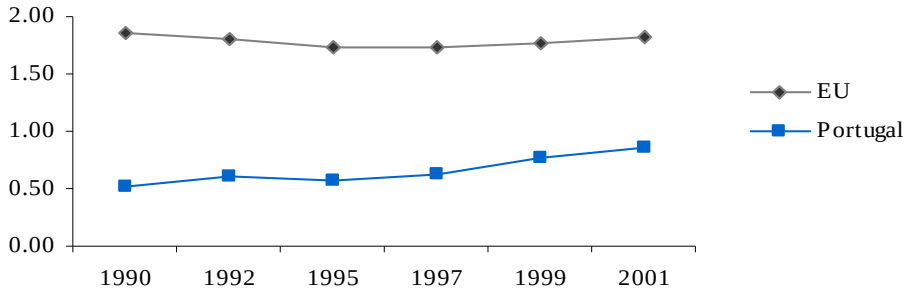
¥ There is no data for Baixo Vouga

5.2.1a Bridging the Policy Divide When 'Technology Push' Comes to 'Pull'

Nearly twenty years of CSFs have had a positive macroeconomic impact on Portugal (Dias and Lopes 2005, Dpp 2001). Studies have illustrated their positive impact on manufacturing industry productivity and value-added production (Martins 2004, De 2003), having gone as far as to assess their contribution to Lisbon Strategy goals and the country's position with respect to those goals (Carvalho *et al.* 2005, Proença *et al.* 2006). The figures below illustrate how CFSs have provided a framework for historical increases in R&D investments as well as an inducement for greater national public spending. Whereby European transfers have helped to stimulate nearly twice the amount of national and/or public spending on R&D (on 1990 levels)

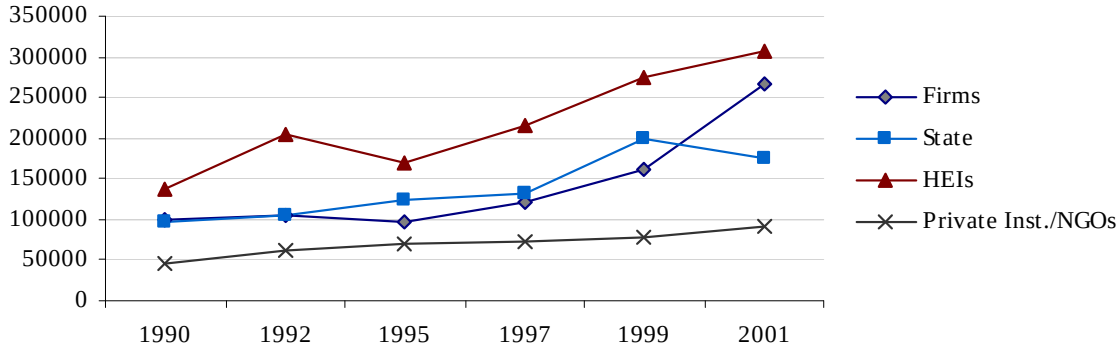
in 2001 (Figs. 5.1-5.2). Though, Portugal remains significantly behind other national R&D spending shares (Tbl. 5.6) and over two percentage points down from the Lisbon Strategy target of 3-0 percent of national GDP. Lastly, the share of total R&D spending across firms, State, universities, and private and non-governmental organizations is worth noting; Portugal has demonstrated a positively significant increase in the private enterprise share of spending, but the total State spend on R&D has remained proportionally higher than that of private enterprise – the opposite of which occurs across OECD countries on average.

Figure 5.1 International comparison of R&D spending as a percentage (%) of GDP



Source: Observatório de Ciencia e Ensino Superior[60] (Oces 2004)

Figure 5.2 Total R&D spending ('000s €), at constant prices, in Portugal from 1990-2001



Source: Observatório de Ciencia e Ensino Superior (Oces 2004)

[60] Science and Higher Education Observatory, Ministry of Science and Higher Education

Table 5.6 International Comparison of R&D spending (Select Countries)

	Distributional Share (%) of Total R&D Spending			
Country	**State**	**Firms**	**Other State Sources**	**International**
Portugal (2001)	**61,0**	**31,5**	**2,4**	**5,1**
Spain (2000)	38,6	49,7	6,8	4,9
Ireland (1999)[3]	21,8	64,1	1,6	12,4
UK (2000)	28,9	49,3	5,5	16,3
USA (2002)[2, 4]	28,7	66,2	5,1	[6] --
France (2000)[5]	8	52,5	1,6	7,2
Germany (2001)[3]	31,0	66,6	0,4	2,0
EU (2000)[1, 2]	34,7	55,8	0,7	7,1
OECD (2000)[1, 2]	28,5	64,2	4,6	[6] --

Source: (Oces 2004)

Notes:
[1] Estimated value or adjusted projection by the Secretariat based on national figures
[2] Provisional data
[3] Estimated value or adjusted projection by the Secretariat in order to comply with OECD norms
[4] Capital spending excluded in total or in part
[5] Discontinuous series in relation to preceding year for which data is available
[6] Unconfirmed phenomena

Surely the uncertainty among economic agents, which recently has been provoked by the lack of steadfast political-economic conditions in Portugal, may have contributed to the stagnant and relatively low share of private R&D investment. Among several socio-political factors behind the laggard development and shortcomings of the Portuguese NSST, Gonçalves *et al*. attribute this lack of private investment to the industrial composition of industry manufacturing and particular business development trajectories, and to the intensity of technology in routine business activity and product development (2000: 16, De 2003). This observation has been an apparent, though rarely mentioned, consideration of the degree of traditional manufacturing and late though increasing share of business services, and the lack of industrial diversification or the engendering of new industrial activity for which some limited progress has been achieved in biotechnology, alternative energies and aviation (Proença and Carvalho 2004).

With this said the post-accession science and technology policy focuses of the European Community Initiative STRIDE (1991-93) and the Portuguese Government's CIENCIA (1989-93) programmes have set off what has been recognized as a traditional split between industrial and enterprise policy on the on hand, and science and technology policy on the other (Ec 2005, Goncalves *et al.* 2000). This is apparent when one considers the twin industrial and enterprise policy programmes PEDIP I and PEDIP II (POE) that provided continuation to the country's industrial policy sector between 1988 and 1999 (CSFI-II) whilst PRAXIS XXI (POCT) carried

on the legacy of CIENCIA (POCT)[61] in CSFII (1994-99) toward the provision of ICT and R&D infrastructure, and the continued development of the Portuguese NSST (i.e. business innovation incubators, technology centres e.g. the establishment of the footwear technology centre) (Annex Tbl. A5.1a-A5.1b).

This split or 'divide' was echoed in a recent national report to the European Commission's Directorate-General for Enterprise and Industry (Ec 2005: ii, 3, 6, 9-10, 14, 21, 33, 41-42). And it has been characterized principally by the 'technology push' of science and technology on the one hand, and attempts to induce firm modernization through technological adoption or 'technology pull' enterprise and industrial polices on the other. Integration of the early 'technology push' policy remnants of the 1970s and 80s, which largely rested on 'linear' conceptualizations of innovation processes, and the 'technology pull' of enterprise and industrial policies toward a 'complex' innovation systems approach have been attempted in recent years (see Sec. 2.3 for discussion of 'linear' and 'complex' innovation). Upon reflecting the first two CSF Operational Programmes for Science and Technology, Godinho *et al.* (2000) describe the policy 'divide' scenario in Portugal as an inability to 'learn' within policy circles. The authors persuasively claim that the policy 'divide' partly has been attributed to untimely ex-post and ad-interim policy evaluations and a general unwillingness to go beyond bureaucratic concerns with programme execution when both policy sectors would benefit from closer coordination of NSST developments and firm modernization; this 'divide', furthermore, may well explain the significant increase in State R&D spending on NSST infrastructure development, which largely has been unable to attract an equal or greater share of firm spend (see Tbl. 5.6).

The first short-run attempt toward a more integrated and 'explicit' innovation policy through the Programa Integrado para Inovação (hereafter PROINOV)[62] was compounded by successive bouts of political unpredictability and 'political cycle zigzagging' (Ec 2005: iii, 14). Much enthusiasm surrounding innovation and industry 'clusters' (i.e. PROINOV) was initially spurred by Prof. Michael Porter's visit to Portugal in 1999. But the national policy direction on innovation was drastically restructured by the Barroso Government, following a local landslide victory for the Social Democrats and a subsequently concomitant mid-term political forfeit by Socialist leader António Guterres in 2002. Portugal's inability to subsequently revisit the same degree of policy exploration toward an integrated innovation policy, which would have had to at least implicitly interact with regional policy, apparently has suffered from a lack of national consensus on the role of industry 'clusters', innovation and regional development – contrary to consensual views on 'systems of innovation'. In other words, in what appears to have been a lesser degree of political consensus over industry 'clusters', innovation and regional

[61] STRIDE terminated in the first CSF
[62] Integrated Programme for Innovation; PROINOV was scrapped from the CSFIII funding programme (2000-06) in 2002.

development, contrary to *policy* led by theory desires to reinforce 'national innovation systems', it is not surprising to find that more territorially articulate views on underdevelopment have given way to a technologically determinist orientation. The following section briefly outlines this point, highlighting the unprecedented use of science-technology and innovation as a cross-cutting platform for territorial development via the Plano Tecnológico.

5.2.1b The Plano Tecnológico. A Polity of Consensus and Spatiality

The Plano Tecnológico (hereafter PTec) was launched by the current Socialist Government shortly after taking office in 2005. Their political campaign for parliamentary leadership largely rested on the rhetoric of a 'technological shock' that was necessary to move Portugal forward: 'Portugal de Novo, Portugal a Inovar' (Socrates 2005). The slogans referred to the Lisbon Strategy and the PTec, respectively. Together with the newly re-launched Lisbon Strategy (Cec 2005), the PTec has offered a 'Strategy of Growth Based on Knowledge, Technology and Innovation' (Cnel 2005). It has worked in tandem with the National Employment Plan (PEC), and the Stability and Growth Pact (PEC) to help ensure the European Commission of the country's commitment to budgetary discipline; all three, combined, have contributed to the National Action Plan for Growth and Employment.

The three-pronged PTec for 'knowledge', 'technology' and innovation has provided an 'umbrella' framework for the continuation of the current ministerial programmes for science and innovation (POCI), and enterprise and industrial policies (PRIME)—both an evident continuation of the CIENCIA/PRAXIS XXI and the PEDIP I/II before them. The scope of the PTec also has included the inter-ministerial 'knowledge society' programme (POSC); the programme is managed by the Innovation and Knowledge Mission Unit (UMIC), which was created once PROINOV was decommissioned in 2002 and restructured to focus on ICT and development. Despite the PTec's ambitious scope, it has aimed to provide institutional coherency and steadfastness by pairing its action items with different institutions as well as articulating benchmarks for action. The PTec only has touched upon a number of generically inter-related action items such as 'local area business districts' (ALEs) and 'regional competitiveness poles' (ibid: 35-36), and 'regional innovation plans' and 'virtual technological centres' (ibid: 43-45). But how these valid action items will engage with well known issues concerning cities and regions such as structural unemployment, and decades-long monoindustrial specialization not to mention the immediate challenges of re-training and industry diversification is not clear.

Despite the PTec's cross-sectoral policy guidance framework, the task of bridging the long-established 'divide' between science and technology policy, and enterprise and industrial

policy (Ec 2005) has remained unresolved. Instead the roundabout institutionalization process of S&T/I policy, from the achievements mirrored on supranational systems of scientific and technological agenda to its subsequent internationalization and internationally inspired attempts at more integrated approaches not to mention the compounded periodic effects of political instability, has left a mosaic of disparate policy initiatives.

These policy initiatives have included investments of 32m € in the recovery of sectors and regions through Programa Dínamo, Dinamização dos Sectores Têxtil, Vestuário e Calçado (hereafter DÍNAMO)[63], and Programa de Recuperação de Áreas e Sectores Deprimidos (hereafter PRASD)[64], respectively (Pimenta 2003, Siza 2003a,b). Both programmes were launched by the Ministério de Economia e Inovação (MEI)[65] during the Barroso Government (2002-2004) and incorporated in the Operational Programme for the Economy until 2006 (PRIME / 2003-05; New PRIME / 05-06). Other interventions have included the launch of the Gabinete de Intervenção Integrada para a Reestruturação Empresarial (hereafter AGiiRE)[66], the Estrutura de Missão para a Região Demarcada do Douro[67], and an astounding 226m € investment in the glass industry by the State and the Associação Indústrial de Portugal (AIP)[68] (Candoso 2006). Whilst PRASD has been helpful in positively discriminating depressed areas and sectors for economic development incentives from MEI, the continued absence of any clear or 'explicit' position on industry 'clusters' is perplexing to say the least.

Though perhaps partly due to their launch under terribly short-run government mandates, these programmed attempts at the recovery of select sectors and regions have conveyed a form of policy experimentalism, policy lobbying, and policy conciliation in the absence of a concerted policy approach to S&T/I and regional policy. Moreover, the technological determinism of PTec's technology-led national economic agenda has restricted its ability to engage with some of Portugal's most pressing short to medium-long term problems. Rosa (2005), for instance, has pointed out a key future challenge in a biting critique of the PTec's inability to address rapid long term unemployment rates witnessed in recent years. The recently created 'mobile employment centres' of PTec's AGiiRE initiative, he finds, largely has replicated existing regional unemployment support centres, offering little in the way of industry training and job growth incentives much needed to redress the worrisome share of

[63] Dínamo Programme, Textile, Clothing and Footwear Sector Regeneration
[64] Programme for the Recovery of Depressed Areas and Economic Sectors. PRASD offers a 5-15 percent increase on the public share of incentives to depressed regions and sectors for specific New PRIME policy measures for economic development by the Ministry of Economy and Innovation.
[65] Ministry of Economy and Innovation
[66] Integrated Intervention for Business Restructuring Office
[67] Structural Mission Plan for the Douro Region; Ministerial Council Resolution n.º 116/2006, at http://www.portugal.gov.pt/Portal/PT/Governos/Governos_Constitucionais/GC17/Ministerios/MAOTDR/Comunicacao/Outros_Documentos/20061003_MAOTDR_Doc_Missao_Regiao_Douro.htm. Last accessed on 11 Oct, 2006
[68] Portuguese Industrial Association

low-educated workforce among the long-term unemployed who are subject to the increasing risk of social exclusion.

To illustrate this point, one need only turn to the Portuguese Norte region to appreciate the socioeconomic difficulty for many who have had to contend with the apparent double-sided truth of industrial transformation and its consequences. The first discernable increases in Portugal's post-accession productivity and value-added production have been credited to industry firm modernization and technological upgrades among the low and low-to-medium technology sector. The potential development impact of the country's regional concentration of traditional industry sectors undergoing significant restructuring (e.g. textiles, clothing and footwear) has been apparent in the combined figures on industry specialization (Godinho and Mamede 2000, Tbls. 5.7a-5.7b) and unemployment in the Norte region. But industry restructuring needed to accompany the perceived global economic pressures, and the inability of local and regional authorities to bring about new industry and services into their largely specialized monoindustrial circumstances, compounded by an increasing unemployed workforce of specially trained, low-educated and predominantly middle-aged female population, has continued to aggravate many local communities and regions in this old industrial region.

5.3 TRANSFORMATION AND COGNITIVE SPACES OF AGENCY IN THE PORTUGUESE FOOTWEAR INDUSTRY

The following second of the two discussed facets in this chapter has offered another look at the political-institutional environments through which Portuguese footwear industry transformation has been manifest. This second facet has explored the parallel albeit interrelated (re)institutionalization and restructuring of footwear industry practices that have been concomitant with the above discussed institutionalization of S&T/I policy in Portugal. This facet also has provided a thorough characterization of the Portuguese Norte region (Sec. 5.3.1), which subsequently has been followed by a discussion of the footwear industry's perceptions of change in the space of its transformation or restructuring of industry practices and the concomitant (re)institutionalization following on from the demise of the Novo Estado through to the structural effects of Portugal's accession to the European Union (Sec. 5.3.2).

5.3.1 Transformation in the Portuguese Footwear Industry

The industrial Norte region of Portugal is under strong competitive pressure from low-cost value-added production in the textiles and apparel sectors of parts of Asia and North Africa, Morocco and Turkey, and from other labour-intensive industries in Eastern Europe as well as

pressures to its automobile and electrical components industries from Central Europe. This is compounded by competition for FDI in its relatively smaller share of the automobile components industry from the neighbouring Spanish regions of Galiza to the North and Valencia to the South.

Nationally, intensive-labour industries account for nearly one-third of all Portuguese exports; nearly one-third (28-3 percent) of national exports come from textiles, clothing and footwear (TCF) industries alone[69]. The automobile, and natural resources industries, and the wood, cork, and paper and pulp industries retain one-quarter and one-fifth of all national exports, respectively; both the knowledge and technology-based industries e.g. ICT, and instrumentation and electrical equipment manufacturing hold significantly lesser shares at one-tenth of all national exports.

Regional exports in the Norte nationally retain a 42-0 percent share of all exports, with an average annual increase of 5-7 percent despite its comparatively greater share at 44-5 percent in 1997. This is not a far cry from the Lisboa[70] region's disproportionate 28-2 percent share of all national exports, which is up 3-83 percentage points from its share in 1997 at 24-4 percent with an average annual increase of 11-4 percent (Tbl. 5.2a, Marques *et al.* 2003). This regional scenario has been compounded by two factors: 81 percent of the Norte region's exports have come from a geographic area roughly one-third the overall size of the region, 47-6 percent of which has come from intensive labour industry exports. This has delivered a testing blow on the region's social and economic welfare as its industries restructure to accommodate the increasing weight of international competition. Secondly, a more nuanced look at the regional distribution of TCF exports and population dynamics have illuminated its territorial stress points and the seemingly vulnerable situation for the region as a whole. The following discussion of the manufacturing tradition in the Portuguese Norte region has offered a telling display of these two factors.

[69] The national footwear industry's share was 7-3 percent (1999); this is a significant increase from its share in 1980 at 3-5 percent of the TCF sector's 31-0 percent share of all national exports (Me 2004).

[70] The NUT II Lisboa region is a recent designation dating back to 2002 and contains the NUT III regions of Grande Lisboa and Peninsula de Setúbal. The previous designation of the region, Lisboa e Vale do Tejo (hereafter LVT), was a more far-reaching area, bording the Centro region to the North and the Alentejo region to the South. In light of LVT's phased out 'Objective 2' status for European structural funds eligibility, Portugal redrew the NUT II borders along the more developed areas of Grande Lisboa, North of the city of Lisbon, and Peninsula de Setúbal across the Tejo River to the South of the city. This legislation allowed the relatively less developed northern and southern areas of the LVT to be absorbed into the Centro and Alentejo NUT regions, respectively, and assured that they would continue to receive European funding deemed for Europe's less developed regions under the 'Objective 1' status.

Table 5.7a Norte Region Share of National Exports - 1997, 2001

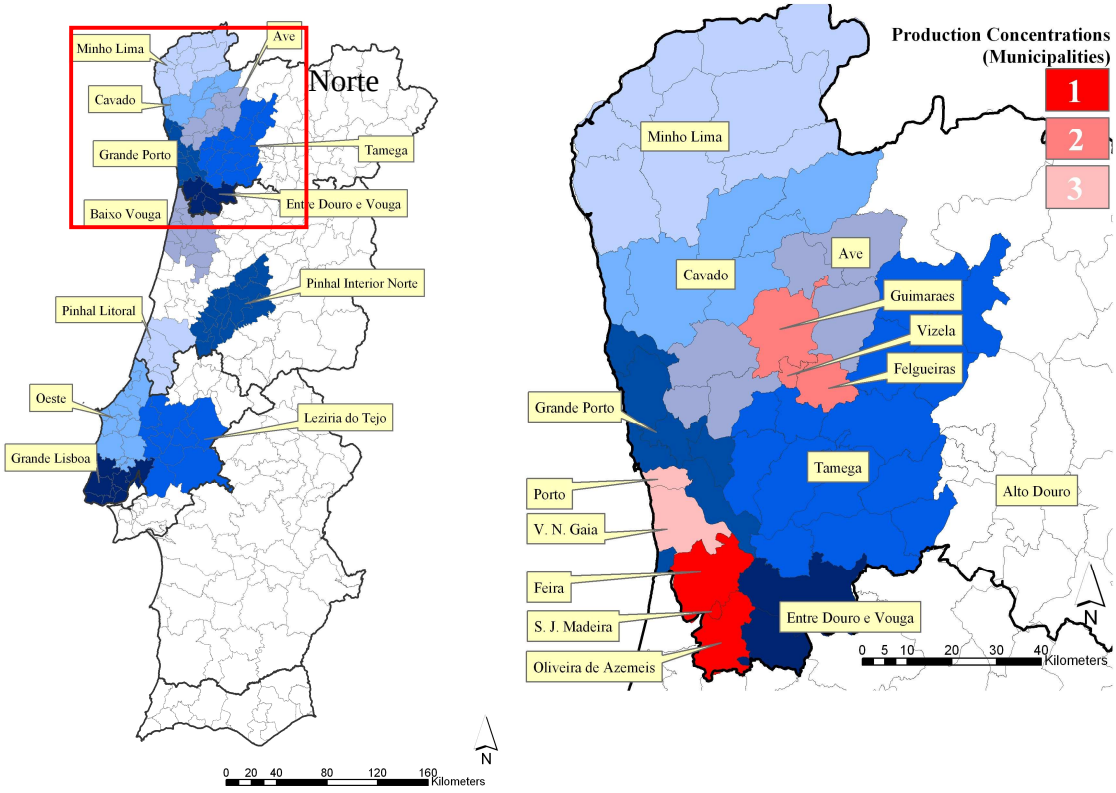
	Exports		Avg. Annual % Change
	1997	2001	2001 / 1997
NUTS	(%) Share		
Norte	**48.18**	**44.39**	**-1.0**
Minho-Lima	3.58	2.55	-1.8
Cávado	**5.14**	**4.42**	**-2.9**
Ave	**11.57**	**11.4**	**-6.5**
Grande Porto	**16.53**	**14.84**	**-4.0**
Tâmega	4.09	3.4	-2.1
EDV	**6.66**	**7.23**	**9.1**
Douro	0.47	0.37	-0.6
AToM	0.14	0.18	14.6

Source: Adapted from DPP, 2003

5.3.1a Norte. The Geography of a Regional Manufacturing Tradition

The Portuguese TCF industries are located predominantly in the sub-regions (NUT III) of Tâmega, Cávado, Entre Douro e Vouga (hereafter EDV) and Ave. The industrial activity of these regions is diffused along a territorial 'arc' that borders on Grande Porto (Fig. 5.3). The latter two regions of EDV and Ave, and Grande Porto, together constitute 80-5 percent of Norte's 42-0 percent share of national exports. What is more, Ave possesses the largest concentration of TCF employment of all these regions, with over five times the combined industry's share of all employment in the country. This regional concentration of national employment in TCF has been reflected in the industries' 38-9 percent share of all employment in region.

Figure 5.3 Sub-Regions (NUTS III) of Footwear Industrial Activity in Portugal



Source: Author

This apparent monoindustrial situation in the Ave sub-region has been mirrored in the TCF industries' 67-5 percent share of all regional exports, which has been repeated in the more problematic scenarios of the Cávado and Tâmega sub-regions with a 69-7 and 84-8 percent share of all regional exports in TCF products, respectively—despite having had their industry location quotients less than that of the Ave region (Tbl. 5.7b). Lastly, in spite of a regional share of employment in TCF industries greater than Cávado and Tâmega, EDV has had a significantly less regional share of exports from its TCF industries at 26-6 percent; this share is second to its wood and cork industries at 41-1 percent. Furthermore, EDV and Tâmega peculiarly have come through consistently with a positive increase in their share of GNP, despite the Norte region's decreasing share (1995-2001 data); this may have been attributed to a particularly favourable period for TCF exports in Tâmega or a comparatively more diverse economic structure in EDV (cf. Tbls. 5.8a-5.8b).

Table 5.7b NC-L Employment and Export Shares

	% of Regional Employment			% of Regional Exports	
NUTSIII *NC-L* [2] Regions	TCF	Highest Ind. Sector Share of Emp (%)	Industry Location Quotient[1]	TCF	Highest Ind. Sector Share of NC-L Exports (%)
Minho-Lima	7.3	Construction / Pub. Wrks. (18.5)	n.a.	21.2	TCF
Cávado	**20.6**	**TCF**	**2.8**	**69.7**	**TCF**
Ave	**38.9**	**TCF**	**5.4**	**67.5**	**TCF**
Grande Porto	8.1	Commerce (19.3)	1.1	31.4	Electrical Machinery / Mat'l (17.0)
Tâmega	19.7	Construction / Pub. Wrks. (19.9)	2.7	**84.8**	**TCF**
EDV	**21.3**	**TCF**	**2.9**	26.6	Wood / Cork (41.1)
Baixa Vouga	4	Commerce (15.9)	n.a.	10.7	Electrical Machinery / Mat'l (24.1)
Baixo Mondego	2.7	Commerce (15.9)	n.a.	n.a.	Pulp / Paper (71.8)
Dao Lafoes	4	Commerce (15.7)	n.a.	12.5	Auto Manuf. (44.8)

Source: Adapted from DPP, 2003

Notes:
[1] The national industry location quotient is equal to **(**regional employment for industry *x* / all regional employment**)** / **(**national employment for industry *x* / all national employment**)**; high values = equal high regional employment concentration for industry *x*
[2] TCF is present in 14.5% of NC-L employment base with an industry quotient of 2.0; this TCF share of the NC-L employment base is followed by employment shares in Commerce, and Construction and Public Wrks. with 16.1% and 12.7% respectively

Table 5.8a GNP Percent Shares, Norte Region – NUTSIII, 1995-2001

	GNP						
	1995	1996	1997	1998	1999	2000	2001
NUTS	(%) Share						
Portugal	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Norte	**30.0**	**30.0**	**29.5**	**29.1**	**29.2**	**28.7**	**28.5**
Norte	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Minho-Lima	5.3	5.4	5.3	5.3	5.2	5.3	5.3
Cávado	9.5	9.7	9.6	9.6	9.7	10.0	10.1
Ave	13.6	13.5	13.5	13.5	13.6	13.6	13.3
Grande Porto	46.0	45.6	46.0	45.8	45.5	45.2	44.5
Tâmega	8.3	8.3	8.5	8.6	8.7	9.1	9.3
Entre Douro e Vouga	7.4	7.6	7.7	8.0	8.1	7.9	8.1
Douro	5.1	5.2	4.8	4.6	4.6	4.6	4.9
Alto Trás-os-Montes	4.8	4.8	4.5	4.5	4.5	4.5	4.5

Source: Adapted from INE, Contas Regionais

Table 5.8b GNP Percent Shares, NUTSIII, 1995-2001 (excluding Norte Region)

	GNP						
	1995	1996	1997	1998	1999	2000	2001
NUTS	(%) Share						
Portugal	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Minho-Lima	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Cávado	2.9	2.9	2.8	2.8	2.8	2.9	2.9
Ave	4.1	4.1	4.0	3.9	4.0	3.9	3.8
Grande Porto	13.8	13.7	13.5	13.4	13.3	13.0	12.6
Tâmega	2.5	2.5	2.5	2.5	2.5	2.6	2.6
Entre Douro e Vouga	2.2	2.3	2.3	2.3	2.4	2.3	2.3
Douro	1.5	1.6	1.4	1.3	1.4	1.3	1.4
Alto Trás-os-Montes	1.4	1.4	1.3	1.3	1.3	1.3	1.3

Source: Adapted from INE, Contas Regionais

The socioeconomic features of the territorial 'arc' not only has set its associated sub-regions apart from the remaining Norte sub-regions of Minho-Lima, AToM and Douro, but also has uniquely characterized the Norte region's long-standing references to traditional industry manufacturing—notwithstanding this region's worldwide acclaim for its quality port wine production in the Vale do Douro. To the north and south of this 'arc' are the Norte and Centro sub-regions of Minho Lima, and Baixo Vouga and Baixo Mondego respectively, which have formed a more economically developed territorial strip along the west coast of Portugal—commonly referred to as the 'litoral'[71] or the Norte-Centro Litoral (hereafter N-CL). The southern end of this territorial strip or the Centro-Sul Litoral (hereafter CS-L) is centred on the Lisboa and Peninsula de Setubal sub-regions (Figs. 5.1-5.2 Marques *et al.* 2003). These two 'litoral' regions, though, are not homogeneous. Their distinct socioeconomic characteristics have been reflected in Portugal's growing inequality of income distribution and its high rate of early school leavers (cf. Tbls. 5.9 and 5.9b). Thus this 'litoral' band along the country's West coast not only represents an East/West socioeconomic divide but also a recognizably North/South dimension. A closer look at the N-CL and the C-SL can reveal other meaningful distinctions between the two 'litoral' regions.

[71] 'Litoral' translates to the English word meaning 'edge'.

Table 5.9a Inequality of Income Distribution (Income Quintile Share Ratio)

	Ratio of total income received by the 20% of the population with the highest income (top quintile) to that received by the 20% of the population with the lowest income (lowest quintile).									
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
EU-15	5.1 (s)	4.8 (s)	4.7 (s)	4.6 (s)	4.6 (s)	4.5 (s)	4.5 (s)	: (u)	4.6 (s)	4.8 (s)
Portugal	**7.4**	**6.7**	**6.7**	**6.8**	**6.4**	**6.4**	**6.5**	**7.3 (ip)**	**7.4 (ip)**	**7.2 (b)**
UK	5.2	5.0	4.7	5.2	5.2	5.2 (bi)	5.4 (i)	5.5 (i)	5.3 (i)	: (i)
France	4.5	4.3	4.4	4.2	4.4	4.2	3.9 (bi)	3.9 (i)	3.8 (i)	4.2 (b)
Ireland	5.1	5.1	5.0	5.2	4.9	4.7	4.5	: (i)	5.1 (bi)	5.0
Spain	5.9	6.0	6.5	5.9	5.7	5.4	5.5	5.1 (bi)	5.1 (i)	5.1 (b)
Greece	6.5	6.3	6.6	6.5	6.2	5.8	5.7	: (i)	6.6 (bi)	6.0
Italy	5.9	5.6	5.3	5.1	4.9	4.8	4.8	: (i)	: (i)	5.6 (b)
Czech Rep.	:	:	:	:	:	:	3.4 (i)	: (i)	3.4 (i)	: (i)
Poland	:	:	:	:	:	4.7 (i)	4.7 (i)	4.8 (i)	5.0 (i)	: (i)
Slovakia	:	:	:	:	:	:	: (i)	: (i)	5.4 (i)	5.8 (ip)

Source: Eurostat

Table 5.9b Early School Leavers

	Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training.											
	1994	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
EU-25	:	:	:	:	:	:	18 (e)	17 (e)	17	16 (b)	16	15
Portugal	**44**	**41**	**40**	**41**	**47 (b)**	**45**	**43**	**44**	**45**	**40**	**39 (b)**	**39**
UK	32	:	:	:	:	20	18	18	18	17	15 (i)	14
France	16	15	15	14	15	15	13	14	13	14 (b)	14	13
Ireland	23	21	19	19	:	:	:	:	15	12 (b)	12 (p)	12 (p)
Spain	36	34	31	30	30	30	29	29	30	31	32	31 (b)
Greece	23	22	21	20	21	19	18	17	17	16 (b)	15	13
Italy	35	33	32	30	28	27	25	26	24	24	22	22
Czech Rep.	:	:	:	:	:	:	:	:	6	6 (b)	6	6
Poland	:	:	:	:	:	:	:	8	8	6	6 (b)	6
Slovakia	:	:	:	:	:	:	:	:	6	5 (b)	7	6

Source: Eurostat

N-CL's 'competitiveness' has been based on intensive labour output, 48 percent of which has been product exports and 21 percent in natural resources. C-SL's 'competitiveness' has not been much different with 46 percent in exports and 22 percent in natural resources. Though, these two 'litoral' regions are distinctly different when it comes to their social characteristics; whereas C-SL has an older and more educated population with a low incidence for school drop outs, N-CL inversely has a *younger* and *less* educated population with a *higher* incidence of school drop outs (ibid: 41-46, 136-41). This wider consideration of the differences between N-

CL and C-SL becomes more apparent, still, by simply reflecting on the indices of aging, rejuvenation, and dependency[72].

Despite national trends toward an increasingly aging population among N-CL and the whole of Portugal, all N-CL sub-regions, except the predominantly rural Minho-Lima, have exhibited values below that of the nation's aging index and well below the values for CS-L. This has been reflected in the rejuvenation indices for the two 'litoral' regions, whereby N-CL values for this index have been significantly better than those for CS-L despite higher average national values. The exception, however, has been found in the Norte sub-regions of Tâmega and Cávado; these are the only sub-regions to have higher than national average rejuvenation indices—with the Ave region statistically trailing close by. And while the average lower aging and higher rejuvenation indices for NC-L have been generally reflected in its expected lower dependency indices, its sub-region of Tâmega has been an exception despite its high index of rejuvenation. Yet still a closer examination of all indices has revealed that Tâmega's increased dependency, in fact, has been related to its increased proportion of youth; this is not unlike the greater dependency index attributed to the Minho-Lima sub-region for its exceptional proportion of elderly (Tbl. 5.10).

Lastly, the Norte's territorial 'arc' sub-regions are at a social and economic disadvantage because of its monoindustrial distribution of exports and population dynamics. This has been compounded recently by the somewhat expected unemployment rates in the region. First it should be said, however, that unemployment figures are neither terribly reliable indicators of the risk of social exclusion because of the relatively high level of informal economic activity in these regions nor is labour shedding and firm closures necessarily reliable indicators of the future prospects of an industry. But unemployment figures can illustrate a number of unique features of a region's state-of-development as well as that of an industry's transformation, its prospects, and the people driving both regional and industrial development fronts.

[72] Aging index is the proportion of youths (0-14) and the rejuvenation index is the proportion of births to aging population (65+). The dependency index is the proportion of youths and elderly to the working population.

Table 5.10 Population Variations for 1981, 1991 and 2001 (%) per Age Group for Footwear Cities and Regions

	Population Variations for 1981, 1991 and 2001 (%)					
	Total Var. 1981-1991	Total Var. 1991-2001	Age Groups			
			0-14	15-24	25-64	65+
Portugal	**0.4**	**5.3**	**-15.7**	**-8.2**	**11.9**	**26.9**
Algarve	5.2	15.8	-5.3	7.3	22.5	24.6
Alentejo	-6.4	-2.5 (-0.7)	-24.2 (-22)	-6.3 (-6.4)	-1.8 (0.8)	17.7 (19.1)
Lisboa	1.1	5.4 (5.6)	13.2 (-13)	-7.4 (-7.8)	9.3 (9.6)	30.3 (32.4)
Centro	-2.4	3.5 (4.0)	-18.9 (-18)	-6.6 (-6.4)	9.2 (9.2)	21.8 (22.7)
Norte	1.8	6.2	-16	-10.9	17.1	29
Norte	**1.8**	**6.2**	**-16**	**-10.9**	**17.1**	**29**
Minho-Lima	-2.7	0.1	-26.9	-8.7	7.8	20
Cávado	6.9	11.3	-13.3	-5.3	26.9	33.5
Ave	6.1	9.4	-13.8	-9.7	23.6	37
Guimarães	6.7	10.8	-13.1	-9.6	26.9	42.8
Vizela	—	12.9	-3.8	-12.3	29	38.9
Grande Porto	4.3	8	-11.9	-10.7	16.5	34.2
Porto	-8.2	-13	-32.5	-26.1	-10.1	13.9
V. N. de Gaia	8.9	16.2	-2.1	-6.9	25.9	43.5
Tâmega	2.3	8.3	-11.2	-11.9	24	27.5
Felgueiras	6.3	17.2	-0.1	-3.3	33	35.2
EDV	6.1	9.7	-11.8	-9.9	21.5	33.9
SMF	7.7	14.6	-5	-9.4	27.1	43.4
OZ	6.0	5.8	-16	-13.5	16.5	32.8
SJM	10.9	14.4	-9.2	-0.5	22.8	50.4
Douro	-9.6	-7.1	-32.2	-20.2	0.7	18.9
AToM	-15.8	-5.1	-34.6	-15.9	0.1	24.7

Source: Adapted from INE Censos 1991/ 2001 - Populacao Quadros Resumo (2): Norte, Centro, Lisboa, Alentejo and Algarve

The unemployment data illustrates three features of the Norte region. First, the unemployment increases in the region have been twice the national average. Secondly, despite these relative increases in joblessness, sub-regions such as Tâmega have experienced significant decreases in unemployment. But the unemployment decreases in Tâmega have not been consistent with what has appeared to be awfully concentrated unemployment 'pockets' in some of its cities and towns—with increases in the order of three times the regional average; in fact, select cities have experienced sharp increases in unemployment as their sub-regions have witnessed significant reductions in unemployment overall (Tbl. 5.11). Thirdly, the rate of unemployment increases have been a terribly worrying development factor as over 50-0 percent of those registered have been unemployed for less than one year (Tbl. 5.12). This relatively sharp increase of registered unemployment has been compounded by an increasing share of structurally unemployed, which has been largely attributed to the overwhelming low-level of education among the registered. The predominantly low-educated and middle-aged profile of these unemployed also has been consistent with the large share of female seamstresses typical of the TCF workforce (Tbl. 5.13); thus, it is not surprising to find these

unemployment 'pockets' concentrated the cities and towns where TCF industries are predominantly situated (cf. Fig. 5.3, Tbls. 5.11-5.13). Lastly, despite its obvious regional development implications, the regional impact of this concentration of unemployment also has been an increasingly troublesome issue at the level of households and local communities. A further look at the geographic distribution of footwear production in the following section (5.3.1b) offers a prime example of this potentially wearisome scenario.[73]

Table 5.11 Percent Registered Unemployment among Highest Age Groups in Footwear Cities

	Tl. Reg. - Jan-04	Tl. Reg. - Jan-06	% Change	% Tl. Reg. - Female - Jan, 2006	Age Grp.	% Reg. - Jan-06	Edu. Level	% Reg. - Jan-06
Portugal[1]	**454,397**	**479,552**	**5.5**	**57.1**	35-54 25-34	**40.9** **25.3**	1º 2º	**32.6** **20.7**
Norte	**192,274**	**217,833**	**13.3**	**57.8**	35-54 25-34	**42.8** **23.9**	1º 2º	**38.2** **22.1**
EDV	**9,530**	**13,264**	39.2	**61.4**				
SJM	816	1,125	37.9	56.8	35-54 25-34	38.5 24.0	1º 2º	30.9 19.1
SMF	5,732	8,161	42.4	61.3	35-54 25-34	42.6 24.9	1º 2º	38.9 25.9
OZ	1,819	2,644	45.4	62.1	35-54 55+	36.9 27.8	1º 2º	42.1 19.5
Tamega	**35,372**	**31,446**	**-11.1**	**61.8**				
Felgueiras	3,458	4,811	39.1	56.3	35-54 25-34	45.9 23.0	1º 2º	49.4 23.7
Ave	**31,835**	**40,662**	**27.7**	**57.1**				
Guimaraes	9,622	12,119	26.0	52.9	35-54 55+	44.6 26.8	1º 2º	50.3 17.4
Vizela	1,329	1,785	34.3	51.3	35-54 55+	44.8 27.8	1º 2º	54.6 16.0
Grande Porto	**80,764**	**85,135**	**5.4**	**54.4**				
Porto	16,262	15,305	-5.9	47.7	35-54 25-34	42.8 23.2	1º 2º Univ.	30.3 18.9 12.8
V.N. de Gaia	22,530	24,211	7.5	58.2	35-54 25-34	45.6 23.6	1º 2º	36.9 22.5

Source: Adapted from Instituto Nacional de Estatistica (INE), Recenseamento da Populacao e da Habitacao (Norte) - Census 2001

Note:
[1] Portugal data excludes figures from Madeira and Azores islands

[73] Recent empirical research by Guimarães (2000) and Figueiredo (2002) suggests that Portuguese business location and investment tends to be risk averse and as a result less mobile, preferring to locate and invest in geographic areas of previous business investment or areas of long-established personal relations such as place of birth. This could explain, in part, why the urban level of concentrated footwear activity has coincided with the observed unemployment 'pockets'. Again, that is, how an industry of largely family-owned business can have a physical proximity as well as an economic affinity with the owner-household. And how it could be expected that the labour pool these firms draw upon is local.

Table 5.12 Total Registered Unemployment in Footwear Cities

	2004 [1]	2005 [1]	(% change)	2004 [1]	2006 [1]	(% change)	(% of wkg. age pop. in Jan, 2006)
Portugal[3]	**454,397**	**471,639**	**3.8**	**454397**	**479552**	**5.5**	**9.6**
Norte	**192,274**	**208,546**	**8.5**	**192274**	**217833**	**13.3**	**12.3**
Tamega	**35,372**	**28,770**	**-18.7**	**35372**	**31446**	**-11.1**	**12.4**
Felgueiras	3,458	4,297	24.3	3458	4811	39.1	16.7
(No. reg. < 1year)	(1800)	(2270)		(1800)	(2349)		
EDV	**9,530**	**11550**	**21.2**	**9530**	**13264**	**39.2**	**9.4**
SMF	5,732	6,941	21.1	5732	8161	42.4	11.5
(No. reg. < 1year)	(3526)	(3735)		(3526)	(4283)		
SJM	816	970	18.9	816	1125	37.9	9.7
(No. reg. < 1year)	(566)	(608)		(566)	(666)		
OZ	1,819	2,282	25.5	1819	2644	45.4	7.2
(No. reg. < 1year)	(1109)	(1336)		(1109)	(1484)		
Ave	**31,835**	**34,148**	**7.3**	**31835**	**40662**	**27.7**	**15.4**
Guimaraes	9,622	11,124	15.6	9622	12119	26.0	14.1
(No. reg. < 1year)	(5244)	(5595)		(5244)	(5960)		
Vizela	1,329	1,680	26.4	1329	1785	34.3	14.4
(No. reg. < 1year)	(738)	(850)		(738)	(778)		
Grande Porto	**80,764**	**86,315**	**6.9**	**80764**	**85135**	**5.4**	**13.2**
Porto	16,262	16,349	0.5	16262	15305	-5.9	12.1
(No. reg. < 1year)	(8204)	(7941)		(8204)	(7608)		
Vila Nova Gaia	22,530	24,599	9.2	22530	24211	7.5	15.9
(No. reg. < 1year)	(10885)	(11000)		(10885)	(11054)		

Source: Adapted from Instituto de Emprego e Formacao Profissional, Concelhos: Estatisticas Mensaisand Instituto Nacional de Estatistica (INE), Census 2001

Notes:
[1] Figures for the month of January only
[2] Data for working age population is based on the 2001 Census published by the Instituto Nacional de Estatística (INE)
[3] Portugal data excludes figures from Madeira and Azores islands

Table 5.13 Unemployment Rates by Gender

	2001 (1991) (%)		
	M/F	M	F
Portugal[1]	**6.9** (6.1)	**5.3** (4.2)	**8.7** (8.8)
Norte (NUTS	**6.7** (5.0)	**5.2** (3.8)	**8.6** (6.5)
EDV	**4.7** (2.7)	**3.5** (2.1)	**6.2** (3.5)
SJM	5.5 (3.1)	4.7 (2.6)	6.3 (3.7)
SMF	3.9 (2.7)	2.9 (2.2)	5.0 (3.4)
OZ	3.9 (2.1)	2.9 (1.7)	5.0 (2.8)
Tamega	**5.1** (4.1)	**3.2** (2.1)	**8.0** (6.1)
Felgueiras	3.7 (2.6)	3.2 (2.2)	4.3 (3.1)
Ave	**5.6** (3.9)	**4.8** (3.7)	**6.4** (4.2)
Guimaraes	5.3 (3.5)	4.9 (3.5)	5.7 (3.6)
Vizela	4.9 (2.9)	4.7 (2.9)	5.2 (2.9)
Grande Porto	**8** (6.0)	**6.8** (4.7)	**9.4** (7.7)
Porto	10.2 (6.9)	10.1 (6.0)	10.3 (8.0)
V.N. de Gaia	8.1 (5.6)	6.5 (4.2)	9.9 (7.4)

Source: Adapted from Instituto Nacional de Estatistica (INE), Recenseamento da Populacao e da Habitacao (Norte) - Census 2001

Note:
[1] Portugal data excludes figures from Madeira and Azores islands

5.3.1b Innovation and 'Change' in the Process of Transformation

The Portuguese leather/leather products industry has a 6-0 percent share of the country's intensive labour industry exports (32-0 percent of all national exports, 24-0 percent of which is TCF). Yet while this industry's nearly 7-0 percent contribution to unemployment in the NC-L may seem minimal, the alarming increase of 61-0 percent between May 2002 and the same month the following year is a fair indicator of the significant industry restructuring that it has had to undergo in recent years (Marques *et al.* 2003).

The Portuguese footwear industry is mostly concentrated in the EDV and Grande Porto, and Tâmega and Ave sub-regions of the Norte region, and the area around the Benedita parish

of Alcobaça in the Oeste sub-region to the South (C-SL), immediately North of metropolitan region of Grande Lisboa (Fig. 5.3). The areas most commonly associated with footwear in the Norte region are: São João da Madeira-Oliveira de Azemeis-Santa Maria da Feira[74], and Guimarães-Vizela-Felgueiras (see also Fig 5.3 for location of both conurbations). These two conurbations in the Norte region are currently the areas of greatest footwear production activity. Centred on the city of São João da Madeira (hereafter SJdM), the former has been the traditional centre of footwear production since the 1960s when the industry was largely distributed throughout the country (Von Gersdorff 1961). Today, SJdM still maintains its claim to the long history of footwear production as the 'Capital do Calçado' (Costa 2004). Recognized for its quality classical 'mens' footwear, the second conurbation, centred on Felgueiras, is recognized for its contemporary 'womens' and 'childrens' footwear lines. Other distinctions between these two footwear production centres have been immediately apparent in the industry's composition of firms and employment since the 1980s, which is discussed briefly in the remainder of this section.

The firms around SJdM (i.e. EDV and Grande Porto sub-regions) always have been predominantly micro-enterprise, small and medium-sized firms (SMEs). But the area around Felgueiras (i.e. Tâmega and Ave sub-regions) was later structured on the establishment of large multi-nationals during the influx of FDI to the region in the 1970s (cf. Tbls. 5.14-5.16). The concentration of these firms in the Tâmega and Ave sub-regions has been most evident in the years leading up to 1990. Between 1990 and 2000, though, the departure of many multinationals has had a significant impact on the Felgueiras conurbation, especially for the area around Guimarães in the sub-region of Ave.

[74] A recent collaborative industry project, led by CTCP on footwear business restructuring and the re-socialization of its active workforce currently at risk of unemployment, has added the two cities of Porto and Vila Nova de Gaia to the São João da Madeira-Oliveira de Azemeis-Santa Maria da Feira footwear conurbation. This is not surprising as the two urban areas increasingly have merged over the course of their urbanization. It also should be said that recent legislation currently allows municipalities to voluntarily organize themselves into intermunicipal communities [comunidades intermunicipais, singular: comunidade intermunicipal], which can be of general or specific purposes; and metropolitan areas [áreas metropolitanas, singular: área metropolitana], which can be of two types: greater metropolitan areas [grandes áreas metropolitanas, singular: grande área metropolitana] and urban communities [comunidades urbanas, singular: comunidade urbana] (D.L No 11/2003). As a result of this legislation, the Área Metropolitana do Porto, originally consisting of eight municipalities, has now taken on an additional six municipalities, including Santa Maria da Feira and São João da Madeira.

Table 5.14 Distribution of Footwear Fabricators in 2005 (CAE 19301)

Sub-region (NUTSIII)	Firms	%	Emp	%
Tamega (Norte)	633	28.60%	17271	31.1%
Entre Douro e Vouga (Norte)	1028	46.50%	20349	36.7%
Ave (Norte)	202	9.10%	5441	9.8%
Grande Porto (Norte)	148	6.70%	5394	9.7%
Baixo Vouga (Centro)	28	1.30%	632	1.1%
Cavado (Norte)	41	1.90%	3131	5.6%
Minho-Lima (Norte)	6	0.30%	730	1.3%
Pinhal Litoral (Centro)	7	0.30%	164	0.3%
Oeste (Centro)	60	2.70%	916	1.7%
Grande Lisboa (Lisboa)	26	1.20%	513	0.9%
Leziria do Tejo (Alentejo)	10	0.50%	400	0.7%
Others[1]	21	1.00%	532	1.0%
Total	**2210**	**100%**	**55473**	**100.0%**

Source: Dunn & Bradstreet

Table 5.15 Distribution of Footwear Fabricators in 2000 (CAE 19301)

Sub-region (NUTSIII)	Firms	%	Emp	%
Tamega (Norte)	521	28.70%	14691	29.0%
Entre Douro e Vouga (Norte)	854	47.00%	20150	39.8%
Ave (Norte)	193	10.60%	5962	11.8%
Grande Porto (Norte)	87	4.80%	4568	9.0%
Baixo Vouga (Centro)	20	1.10%	462	0.9%
Cavado (Norte)	36	2.00%	1840	3.6%
Minho-Lima (Norte)	7	0.40%	703	1.4%
Pinhal Litoral (Centro)	6	0.30%	101	0.2%
Oeste (Centro)	50	2.80%	825	1.6%
Grande Lisboa (Lisboa)	11	0.60%	299	0.6%
Leziria do Tejo (Alentejo)	10	0.60%	221	0.4%
Pinhal Interior Norte (Centro)	5	0.30%	102	0.2%
Others[1]	18	1.00%	731	1.4%
Total	**1818**	**100%**	**50655**	**100.0%**

Source: DEEP

Table 5.16 Distribution of Footwear Fabricators in 1990 (CAE 19301)

Sub-region (NUTSIII)	Firms	%	Emp	%
Tamega (Norte)	289	19.60%	13818	23.3%
Entre Douro e Vouga (Norte)	835	56.50%	24315	41.0%
Ave (Norte)	74	5.00%	8315	14.0%
Grande Porto (Norte)	130	8.80%	6670	11.3%
Baixo Vouga (Centro)	14	0.90%	300	0.5%
Cavado (Norte)	36	2.40%	1268	2.1%
Minho-Lima (Norte)	na	na	na	na
Pinhal Litoral (Centro)	na	na	na	na
Oeste (Centro)	44	3.00%	1418	2.4%
Grande Lisboa (Lisboa)	32	2.20%	1794	3.0%
Leziria do Tejo (Alentejo)	5	0.30%	271	0.5%
Others[1]	18	1.20%	1078	1.8%
Total	**1477**	**100%**	**59247**	**100.0%**

Source: DEEP

The departure or divestment of multinationals resulted in an almost immediate increase in the employment and numbers of micro and small-medium enterprise largely as a result of displaced labour. The steady shares of employment among the affected regions from 1990-2005, despite observable increases in the firm numbers of micro and small-medium enterprise, is a fair indicator of the widespread absorption of the displaced labour throughout the two regional conurbations (cf. Tbls. 5.17a-5.17b). Whilst the 1990s have been characterized by large scale multinational divestment, therefore, the short period between 2000 and 2005 has witnessed a significant reduction in industry employment numbers due to labour shedding by large enterprise not to mention a considerable reduction in the stock of small and medium-sized start-ups from the late 1990s[75]. The most remarkable cases are among large firms (>200) in the EDV sub-region[76] and the SMEs in the Ave region.

[75] Acquiring an accurate account of firm closures is not an exact science for a few reasons. When a firm ceases to operate and send its workers home, the business capital can remain intact. Thus, theoretically, the firm can legally resume operations at any time. This has been a common practice among many small and medium business owners. Secondly, the extent of indirect informal labour employed in these firms and other operational businesses is unknown. The industry claims the extent of informal labour has decreased. Though, fieldwork for this research investigation has confirmed the continued existence these informal operations (Silva 2005). Regardless, recent studies suggest that the reoccurrence of these practices in the future is unlikely or likely to decrease (Hafkin [ca. 2001], Maloney 2003); See also Baptista and Karaöz (2006) who argues that the high share of start-ups low incidence of innovation in Portugal has been attributed to resourceful individuals' desire to bypass unemployment or economic loss as opposed to efforts to commercialized a newly developed product.

[76] The 1990 and 2000 data was purchased from the Departamento de Estudos Estatisticos e Planeamento. In an effort to complement the dataset, 2005 data was purchased from Dunn & Bradstreet. But a concerted effort was made to determine whether any firm in the D&B dataset, but missing in the DEEP data, was operational in 1990 and 2000. In all efforts to synchronize both datasets, many entries lacked data on employment numbers for instance. This has its apparent drawbacks as filters based on employment ranges will not account for any firm without this data.

Table 5.17a Footwear Industry Structure by Sub-region (NUTSIII), 1990, 2000, 2005, Fabrication Firms (CAE 19301)

NUTSIII		1-9		10-49		50-199		>200	
		Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp
Tamega	1990	84	430	129	2998	48	4808	15	5582
(Norte)	**2000**	**179**	**750**	**196**	**4595**	**70**	**6542**	**8**	**2804**
	2005	303	855	218	5362	86	7508	10	3546
E.D.V. (Norte)	1990	309	1506	365	8445	105	8658	10	5706
	2000	**346**	**1564**	**323**	**6968**	**88**	**6867**	**5**	**4751**
	2005	495	1709	400	8837	92	7143	4	2660
Ave (Norte)	1990	13	68	23	599	21	2121	12	5527
	2000	**77**	**340**	**53**	**1108**	**34**	**3167**	**3**	**1347**
	2005	122	245	37	755	36	3223	3	1218
Grande Porto	1990	42	191	57	1447	19	1731	1	967
(Norte)	**2000**	**30**	**129**	**33**	**810**	**8**	**812**	**4**	**2817**
	2005	68	204	44	1025	15	1272	7	2893
BaixoVouga	1990	3	20	6	80	3	200	--	--
(Centro)	**2000**	**5**	**25**	**7**	**164**	**3**	**273**	**--**	**--**
	2005	13	26	8	176	4	430	--	--

Source: DEEP, Dunn &Bradstreet

Table 5.17b Footwear Industry Structure by Sub-region (NUTSIII) 1990, 2000, 2005, Fabrication Firms (CAE 19301)

NUTSIII		1-9		10-49		50-199		>200	
		Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp
Cavado (Norte)	1990	22	97	8	173	3	257	2	741
	2000	**24**	**113**	**5**	**95**	**2**	**159**	**1**	**1473**
	2005	29	131	7	132	1	74	2	2794
Minho-Lima	1990	--	--	1	45	1	111	1	213
(Norte)	**2000**	**2**	**7**	**1**	**42**	**2**	**161**	**1**	**493**
	2005	--	--	1	20	4	321	1	389
Pinhal Litoral	1990	--	--	--	--	--	--	--	--
(Centro)	**2000**	**--**	**--**	**3**	**101**	**--**	**--**	**--**	**--**
	2005	2	5	4	89	1	70	--	--
Oeste (Centro)	1990	14	51	19	490	7	539	1	338
	2000	**25**	**88**	**19**	**409**	**4**	**328**	**--**	**--**
	2005	33	132	19	462	4	322	--	--
Grande Lisboa	1990	13	62	13	269	5	496	1	967
(Lisboa)	**2000**	**5**	**28**	**3**	**77**	**3**	**194**	**--**	**--**
	2005	16	70	2	27	6	416	--	--
Leziria do	1990	1	3	3	55	--	--	1	213
Tejo (Alentejo)	**2000**	**4**	**18**	**1**	**10**	**2**	**193**	**--**	**--**
	2005	7	20	--	--	1	150	1	230

Source: DEEP, Dunn & Bradstreet

Table 5.18 Footwear Industry Structure, 1990, Components Firms and Machinery Firms (CAE 19302, 29540)

Firm Size	19302				29540			
	Firms	%	Emp	%	Firms	%	Emp	%
1 to 9 Wkrs.	18	25.0%	92	7.0%	4	16.0%	14	8.0%
10 to 49 Wkrs.	28	38.0%	591	47.0%	8	32.0%	160	92.0%
50 to 199 Wkrs.	5	7.0%	334	27.0%	n.a.	n.a.	n.a.	n.a.
>200 Wkrs.	1	1.0%	235	19.0%	n.a.	n.a.	n.a.	n.a.
Tl. of All Firms[1]	73	71.0%	1252	100.0%	25	48.0%	174	100.0%

Source: DEEP

Table 5.19 Footwear Industry Structure, 2000, Components Firms and Machinery Firms (CAE 19302, 29540)

Firm Size	19302				29540			
	Firms	%	Emp	%	Firms	%	Emp	%
1 to 9 Wkrs.	138	46.0%	625	15.0%	36	60.0%	146	20.0%
10 to 49 Wkrs.	107	36.0%	2313	55.0%	22	37.0%	530	73.0%
50 to 199 Wkrs.	13	4.0%	1069	25.0%	1	2.0%	54	7.0%
>200 Wkrs.	1	0.0%	227	5.0%	n.a.	n.a.	n.a.	n.a.
Tl. of All Firms[1]	300	86.0%	4234	100.0%	60	98.0%	730	100.0%

Source: DEEP

Table 5.20 Footwear Industry Structure, 2005, Components Firms and Machinery Firms (CAE 19302, 29540)

Firm Size	19302				29540			
	Firms	%	Emp	%	Firms	%	Emp	%
1 to 9 Wkrs.	177	57.0%	672	15.0%	36	58.0%	119	18.0%
10 to 49 Wkrs.	111	36.0%	2262	51.0%	20	32.0%	433	65.0%
50 to 199 Wkrs.	14	5.0%	1029	23.0%	2	3.0%	113	17.0%
>200 Wkrs.	2	1.0%	447	10.0%	n.a.	n.a.	n.a.	n.a.
Tl. of All Firms[1]	310	98.0%	4410	100.0%	62	94.0%	665	100.0%

Source: Dunn & Bradstreet

Note:
[1] See original file for notes…on the meaning of symbol (†)

Table 5.21 Footwear Industry Structure, 1990, 2000, 2005[1], Components Firms (CAE 19302)

Firm Size	Firms					Emp				
			%		%			%		%
	1990	2000	90-00	2005	00-05	1990	2000	90-00	2005	00-05
1 to 9 Wkrs.	18	138	666.7%	177	28.3%	92	625	579.3%	672	7.5%
10 to 49 Wkrs.	28	107	282.1%	111	3.7%	591	2313	291.4%	2262	-2.2%
50 to 199 Wkrs.	5	13	160.0%	14	7.7%	334	1069	220.1%	1029	-3.7%
>200 Wkrs.	1	1	0.0%	2	100.0%	235	227	-3.4%	447	96.9%
Tl. of All Firms[1]	73	300	311.0%	310	3.3%	1252	4234	238.2%	4410	4.2%

Source: DEEP, Dunn & Bradstreet

Table 5.22 Footwear Industry Structure, 1990, 2000, 2005[1], Machinery Firms (CAE 29540)

Firm Size	Firms					Emp				
			%		%			%		%
	1990	**2000**	**90-00**	2005	**00-05**	1990	**2000**	**90-00**	2005	**00-05**
1 to 9 Wkrs.	4	**36**	128.0%	36	0.0%	14	**146**	942.9%	119	-18.5%
10 to 49 Wkrs.	8	**22**	56.0%	20	-9.1%	160	**530**	231.3%	433	-18.3%
50 to 199 Wkrs.	0	**1**	n.a.	2	100.0%	0	**54**	n.a.	113	109.3%
>200 Wkrs.	n.a.	**n.a.**	n.a.	n.a.	n.a.	n.a.	**n.a.**	n.a.	n.a.	n.a.
Tl. of All Firms[1]	25	**60**	140.0%	62	**3.3%**	174	**730**	319.5%	665	-8.9%

Source: DEEP, Dunn & Bradstreet

Note:
[1] The discrepancy in firm numbers is due to missing employment data for some firm entries; when firm entries are queried by firm size (i.e. by the number employed), all entries without employment data are not taken into account. Therefore when the dataset is queried for the total of all firms (i.e. the total of ALL firm entries), of which some have missing employment data, this figure is higher than the total of all firms queried according firm size entries the figure is higher.

Lastly, most footwear components and machine supply and services firms are of micro and small and medium sized enterprise. A significant increase in the number of large components firms in the 1990s has distinguished them from the machine supply and services firms that have remained largely micro-enterprise (cf. Tbls. 5.18-20 and 5.21-5.22). Though, whilst the components firms have been situated largely in the SJdM conurbation area (i.e. EDV and Grande Porto), the machine supply and services firms have been located chiefly in both the Felgueiras and SJdM conurbations (Tbls. 5.23-5.24).

Furthermore, the observed changes in the establishment and regional distribution of these firms have been an apparent consequential outcome of the role of FDI and public investment in the 1980s and 1990s. That is, most machinery firms emerged in the 1990s, especially in the EDV and Grande Porto regions. The combined effect of multinational labour shedding and delocalization, which diffused regional 'know-how' into new business developments and new business practices, and of increased public investment through European structural funds has contributed to their increase in firm numbers.[77] Prior to these developments, the early mechanization of the industry was driven largely through technology imports (von Gersdoff 1961) from which subsequent phases were driven by the influx of FDI and public investment.

[77] According to Fonseca (2005: 6), technical upgrading in the industry occurred relatively quickly. The author refers to Schuh-Union, a German firm, which located in Ponte de Lima (Minho sub-Region) in 1986 with twelve German technicians (3:50 workers employed). When it finally closed down all operations, the firm had 2 technicians with a technician to worker ratio of 1:300.

Table 5.23 Footwear Industry Structure by Sub-region (NUTSIII), 1990, 2000, 2005, Components Firms (19302)

NUTSIII		1-9 Workers[1]		10-49 Workers[1]		50-199 Workers[1]		>200 Workers[1]		Total[1]	
		Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp
Tamega (Norte)	1990	2	10	5	109	1	58	--	--	8	177
	2000	**32**	**134**	**17**	**442**	**7**	**526**	**--**	**--**	**56**	**1102**
	2005	34	138	21	522	9	670	--	--	64	1330
E.D.V. (Norte)	1990	11	68	14	294	1	96	1	235	27	693
	2000	**74**	**350**	**61**	**1185**	**--**	**--**	**--**	**--**	**135**	**1535**
	2005	92	363	64	1131	2	100	1	227	159	1821
Ave (Norte)	1990	--	--	2	51	1	60	--	--	3	111
	2000	**17**	**61**	**9**	**232**	**3**	**256**	**--**	**--**	**29**	**549**
	2005	25	74	4	127	2	205	--	--	31	406
Grande Porto	1990	2	8	6	119	1	59	--	--	9	186
(Norte)	**2000**	**10**	**54**	**15**	**359**	**--**	**--**	**--**	**--**	**25**	**413**
	2005	21	79	16	339	1	54	1	220	39	692
BaixoVouga	1990	--	--	--	--	--	--	--	--	--	--
(Centro)	**2000**	**1**	**7**	**2**	**41**	**--**	**--**	**--**	**--**	**3**	**48**
	2005	3	13	3	59	--	--	--	--	6	72
Others	1990	3	6	1	18	1	61	--	--	5	85
	2000	**4**	**19**	**3**	**54**	**--**	**--**	**--**	**--**	**7**	**73**
	2005	2	5	3	84	--	--	--	--	5	89

Source: DEEP, Dunn & Bradstreet

Table 5.24 Footwear Industry Structure by Sub-region (NUTSIII), 1990, 2000, 2005, Machinery Firms (CAE 29540)

NUTSIII		1-9 Workers[1]		10-49 Workers[1]		50-199 Workers[1]		>200 Workers[1]		Total[1]	
		Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp	Firms	Emp
Tamega	1990	--	--	--	--	--	--	--	--	--	--
(Norte)	**2000**	**1**	**1**	--	--	--	--	--	--	**1**	**1**
	2005	1	1	1	12	--	--	--	--	2	13
E.D.V.	1990	3	7	6	102	--	--	--	--	9	109
(Norte)	**2000**	**9**	**40**	**4**	**111**	--	--	--	--	**13**	**151**
	2005	10	34	4	104	1	63	--	--	15	201
Ave (Norte)	1990	--	--	1	22	--	--	--	--	1	22
	2000	**11**	**63**	**7**	**205**	--	--	--	--	**18**	**268**
	2005	9	41	5	109	1	50	--	--	15	200
Grande	1990	--	--	1	36	--	--	--	--	1	36
Porto (Norte)	**2000**	**5**	**18**	**5**	**148**	**1**	**54**	--	--	**11**	**220**
	2005	5	12	5	143	--	--	--	--	10	155
Baixo Vouga	1990	--	--	--	--	--	--	--	--	--	--
(Centro)	**2000**	--	--	--	--	--	--	--	--	--	--
	2005	--	--	--	--	--	--	--	--	--	--
Others	1990	1	7	--	--	--	--	--	--	1	7
	2000	**4**	**12**	**6**	**66**	--	--	--	--	**10**	**78**
	2005	3	6	5	65	--	--	--	--	8	71

Source: DEEP, Dunn &Bradstreet

Note:
[1] See original file for notes…on the meaning of symbol (†)

Yet the above observations of change among the distribution and establishment of footwear production, components, and machine supply and services firms under one predominant model of development, be it the role of FDI and divestment, technological upgrading or a general inability to cope with the necessary processes of industry restructuring would be a thin description of the simultaneous interplay of differentiated factors driving change in the space of Portuguese footwear industry transformation. As stated earlier, the relational capacity of various actors, and the differentiated industry factors and economic dynamics of industry-regional transformation must ensure that a conceptualization of change has been considerate of intersecting and/or parallel processes of agent interactivity. The following sections take this view and discuss several industry perceptions of the early stages of the institutionalization of Portuguese footwear industry practices, which incidentally coincided with the concomitant processes of national industrialization and modernization.

5.3.2 Cognitive Spaces of Agency: Shifting Voices and Discursive 'Change'

Earliest records of the Portuguese footwear industry take the production of footwear back to 1483. However, the earliest account of manufactured footwear dates back to 1833 with

Sapataria da Moda.[78] The history of footwear production in Portugal or an account of its transformation is multi-faceted and any characterization of the industry under one model of development would be erroneous at best. Therefore, as previously suggested in this chapter, the transformation of the Portuguese footwear industry can not be reduced to on 'evolutionary' 'path-dependent' development.

Though, the above standpoint should not suggest that the objective of this section is either to exhaustively discuss the historical development of the footwear industry or alternatively to limit the following discussion to a pre-determined selection of historical events and processes. In other words, the following section discusses the early (re)institutionalization and restructuring of the Portuguese footwear industry, which has been concomitant with early stages of the country's industrialization. It also provides a closing reflection on the second facet of the political-institutional environments through which this industry-regional transformation has been manifest by examining how these developments have paralleled the Portuguese round about to S&T/I policy.

Particular attention, in this respect, has been given to Confraria's (1999) industrialization phases (see Sec. 5.2 for earlier discussion) in an effort to 'frame' in the shifting voices that have echoed the (re)institutionalization of footwear industry practices (Tbls. 5.25a-5.25b). The creation and destruction of industry organizations in this process also considers the regulatory powers of State control, the influential powers of key industry stakeholders and the meandering course of S&T/I policy developments (Sec. 5.2.1), which undoubtedly have shaped the space of industry transformation.

5.3.2a Shifting Voices: Between Cooperation and Crisis

The confluence of national and international events on Portuguese footwear industry restructuring and its concomitant institutionalization occurs over five distinct periods from the 1930s to the present (Tbls. 5.25a-5.25b). Each of these periods is approximately consistent with Confraria's (1999) industrial policy phases (Sec. 5.2). The first two periods constitute the formative stages of the institutionalization of footwear industry practices during which the Junta Nacional dos Produtos Pecuários[79] (hereafter JNPP) is established in the 1930s followed by the Grêmio Nacional dos Industriais do Calçado (hereafter GNIC)[80] in 1953 and the Centro de Formaçåo Profissional da Industria do Calçado (hereafter CFPIC)[81] in 1965—shortly following Portugal's accession to the European Free Trade Agreement (EFTA) in 1960 (see 'institutionalization' phase, Tbl. 5.25a) The subsequent period was the national footwear

[78] Refer to records claimed by the City Council of São João da Madeira for further details at http://www.cm-sjm.pt/1785. Last accessed 21 Oct, 2006.
[79] National Leather Goods Board
[80] National Footwear Trade Association
[81] Professional Training Centre of the Footwear Industry

sector's formative institutionalization of industry practices from the 1970s until the 1980s (see 're-industrialization' phase, Tbl. 5.25a). This period of transformation has been largely attributed to the influx of FDI and, with it, the first transfer of technological know-how.[82] Finally, a significant degree of multinational divestment albeit concomitant with a surge in public and private investments in technology-led firm modernization and technical and professional training, and a series of strategic industrial plans marks the latter two periods from the early to mid-1990s until the present (see 'neo-institutionalization' and 'process management' phases, Tbls. 5.25b).

Table 5.25a Industry Chronology, 1914-1985

INDUSTRIALIZATION	1914-17	First effort toward mechanization of footwear production in Portugal
	1930s	Junta Nacional dos Produtos Pecuarios – JNPP is founded
	1949	Fundo de Fomento de Exportacao (FFE) – later named ICEP, Instituto do Comercio Externo de Portugal in 1982, and again in 2003 and 2005 as ICEP Portugal and Icep Portugal, Instituto das Empresas para os Mercados Externos consecutively
	1953	Gremio Nacional dos Industriais do Calcado (GNIC) founded
	1956	Second effort toward mechanization of footwear production in Portugal
	1956	"Revista do Calcado Portugues" launched with private capital from J.C. Rodrigues
	1957	GNIC carries out first known comprehensive study of the industry
	1957	GNIC proposes a *Camara de Exportadores de Calcado* , which was turned down by the State one year later
	1958	Gremio Nacional dos Industrias de Curtumes is founded
	1958	"Revista do Calcado Portugues" is decommissioned due to lack of subscribers
RE-INDUSTRIALIZATION	1960	Portugal joins EFTA
	1961	FFE commissions second comprehensive study of the industry
	1965	Centro de Formacao Profissional da Industria do Calcado - CFPIC is jointly founded by the Fundo Nacional de Desenvolvimento de Mao e Obra, the Grémio Nacional dos Industriais de Calçado and the Federação Nacional do Sindicato dos Operários Sapateiros and established in Sao Joao da Madeira (Entre Douro e Vouga)
	1967	CFPIC opens a new training center at Oliveira do Douro
	1972	CFPIC opens its third satellite training center in Felgueiras (Tamega) in response to the rapidly expanding industry
	1974	The fall of the *Novo Estado* regime, Carnation Revolution of April 25, 1974

Source: Adapted from various sources

[82] It was only following the first round of mechanization between 1914 and 1917 and the sharp increase in footwear production establishments in the 1950s after the Second World War that the industry had previously witnessed such significant transformation (Von Gersdorff 1961).

Table 5.25b Industry Chronology, 1986-2000

NEO-INDUSTRIALIZATION	1975	Associacao dos Industrias do Calcado (AIC) – later renamed Associação Portuguesa dos Industriais de Calçado, Componentes, Artigos de Pele e seus Sucedâneos, APICCAPS – is founded; AIC was already operating under the new name ("APICCAPS") in 1981. Instituto de Apoio as Pequenas e Medias Empresas e ao Investimento, IAPMEI, is founded
	1978	AIC commissions first known study/action plan: *Industria Portuguesa do Calçado: Principais Problemas e Medidas de Curto Prazo*
	1981	Laboratorio do Controlo da Qualidade is created; CFPIC partnership is restructured with new joint partnership of APICCAPS and the Instituto do Emprego e Formação Profissional - IEFP
	1984	Sindicato dos Operarios da Industria de Calçado, Malas e Afins (SOICAL) joins the recently restructured CFPIC
	1985	CFPIC open its fourth satellite training center in Carvalhos (Barcelos, Cavado)
PROCESS MANAGEMENT	1986	Joins the European Union; Gabinete Tecnico da Industria do Calcado (later named Centro Tecnologico do Calcado de Portugal -) is founded through a collaboration between APICCAPS, IAPMEI and INETI, incorporating the existing Laboratório do Controlo da Qualidade; CFPIC opens its fifth and sixth satellite training centers in Guimarães (Ave) and in Benedita (Alcobaça, Oeste) – site selection was determined by where the services were needed most.
	1988	CFPIC launches instruction of CAD/CAM design/modelling software
	1989	CFPIC launches instruction of new management technology
	1990	CFPIC opens its seventh satellite training center in Oliveira de Azemeis (Entre Douro e Vouga)
	1991	Ensino Profissional de Felgueiras, Lda. (EPF) is founded by the Local Council of Felgueira
	1992	CFPIC establishes three mobile training units that will provide services to firms relocated in regions that lack the established knowledge of footwear production that traditional footwear regions possess .
	1994	APICCAPS commissions third strategic plan: *Plano Estraégico para a Índústria do Calçado*
	1996	APICCAPS commissions fourth strategic plan: *Plano Estratégico 1996: Algumas Linhas para a Sua Revisão e Actualização*
	2000	APICCAPS commissions fifth strategic plan: *Plano Estratégico 2001-2006: A Indústria Portuguesa do Calçado do Século XXI*

Source: Adapted from various sources

This institutional transformation has been evident in discursive changes across various industry studies and strategies. Shifts in the common understanding of necessary change in the industry has emanated from these strategic communications. The breaks and continuities of these accounts particularly have been discernible in the industry's strategic industrial planning documents since 1961[83]. That is agents' interpretation or reasoning of the diverse factors

[83] Five strategic industrial documents have emerged over the past forty years since 1961. They include the exhaustive industry assessment by Gersdorff in 1961 and the AIC in 1978. Three industry strategies subsequently have followed, to date, by the current trade association, APICCAPS (1996, [ca. 2000], 1994).

affecting industry-regional transformation, and their ability to create, adopt and diffuse this knowledge through industry communication.

Furthermore, the working of these communications into 'crisis' narratives of industrial collapse has been a characteristic aspect of these differing industry perceptions and cognitive spaces of agency via-à-vis politically charged discursive mechanisms of industry influence and promotion (e.g. industry reports/strategies). Again, this is a particularly important aspect of the institutionalization of footwear industry practices, which has coincided with the political-institutional context that has fuelled the round about to S&T/I policy developments in Portugal since the late 1960s. For instance among the following discussed communications, various institutional accounts' reference to 'others', both internal and external to the industry, is tactically employed to identify particular threats to the industry, including the industry's self-imposed threats. Indeed early concerns included claims that manufacturers were willingly subjecting themselves to 'industrial suicide' for refusing to cooperate with others (Von Gersdorff 1961: 15, 30) and unfair domestic competition and the 'pulverizacao'[84] or dissipation of the footwear sector (Aic 1978: 5, 11-12, 16), both of which later are echoed in subsequent strategic industrial plans by the Associação Portuguesa dos Industriais de Calçado, Componentes, Artigos de Pele e seus Sucedâneos,[85] (hereafter APICCAPS 1996: 7; 2000 [ca.]: 6-7). Excerpts from these communications and other institutional accounts are discussed further along in this chapter.

As abovementioned however, any effort to begin to trace the shifts in the common understanding of these perceptions of industrial change in the footwear industry must be done with a consideration of its simultaneous process of institutionalization. This process begins with JNPP, a public institution established in the 1930s, which was responsible to the Ministries of Economia, and Finanças e Corporação— 'an autonomous, semi-official institution deemed to secure economic cooperation between the State and the corporations' (von Von Gersdorff 1961: 18, translated by the author) (see 'institutionalization' phase, Tbl. 5.25a). The period from the time of its establishment in the 1930s until the 1950s not only was witness to the Novo Estado regime's rise to power in 1935, but it too was consistent with a resurgence of Portuguese industrialization and economic growth (1950-60s), which later would be followed by the demise of the Novo Estado regime in 1974. Nevertheless, it was during the course of these two decades that footwear manufacturing was most closely articulated with agriculture. Composed of veterinarians and other experts, JNPP aimed to improve production quality and advance commercial prospects of footwear and other leather goods industries, to encourage cooperation, and to educate through publication and dissemination of industry relevant studies and product information. In light of this aim, it controlled the rearing of cattle

[84] Pulverize. This was an expression extensively used in the 1978 assessment of the footwear industry by the Associação dos Industriais do Calçado (1978).
[85] Footwear, components and leather products industry trade association

for cowhides, slaughter houses and all industries that made use of animal hides (e.g. belts, purses and hats); the prodding of cattle with a stock prod – used to make cattle or other livestock move by striking or poking them –, which would have damaged the cow hides, was a particular law-enforced concern at the time (von Von Gersdorff 1961: 19).

Later, the establishment of the GNIC[86] in 1953 introduced a new level of industry representation that only had been administered previously through the national and regional industry associations of Associação Indústrial Portuguesa[87] (Lisbon) and the Associação Industrial Portuense[88] (Porto), respectively. The GNIC, a public membership organization[89] to the Ministries of Economia, and Corporações e Previdência Social, was responsible for a couple of innovative interventions, including the distribution of compulsory ticketing for manufactured footwear, and proposals for a Câmara de Exportadores de Calçado[90] and a privately-funded industry magazine. But the powers of the GNIC were largely limited to the JNPP and the State. That is, while the GNIC was responsible for distributing the tickets for the footwear ticketing scheme, the JNPP was responsible for monitoring its application. JNPP's inability to sufficiently monitor the scheme rendered GNIC's objectives ineffective.[91] JNPP, as von Gersdorff put it, was 'an institution wholly official with the necessary legal powers to monitor and impose the measures it considered convenient' (ibid: 18, translated by author). And while the JNPP had many opportunities to reorganize the leather goods industry sectors over which it had intervening powers, it had little effect in the way of quality control and industry re-organization generally (ibid: 18-23).

The latter stage of the Portuguese 'industrialization' phase (1950-60s) (Tbl. 5.25a) witnessed a period of significant economic growth. It also was the time during which the institutional groundwork for the footwear industry was laid. The newly established institutions included the industry trade association and the industry training centre—both of which are still in existence today. Established in 1953, the GNIC was the result of a wider State initiative to bridge social responsibility and industry through the and the 'contrato colectivo.'[92] When compared to the JNPP, the GNIC, too, had its shortcomings. But unlike the JNPP it operated under a much lecreation of the 'grêmios'[93] sser degree of discretionary powers. GNIC's

[86] GNIC had establishment in Porto and Lisbon, whereas JNPP was limited to Lisbon
[87] Portuguese Industrial Association
[88] Porto Industrial Association
[89] Industry membership in all 'grêmios' was mandatory
[90] Footwear Exporters Chamber
[91] The ticketing scheme aimed to regulate product quality and provide a means for industry monitoring by requiring firms to report on workforce numbers, extent of mechanization, etc.; JNPP was responsible for reporting industry data directly to the National Statistics Institute (INE).
[92] The 'contrato colectivo' sought to establish minimum salaries and fair working hours, to accommodate apprentice and female work and to enforce minimum health and safety conditions.
[93] The 'grêmios', like the GNIC, ceased to exist after the Carnation Revolution in 1974. But these representative bodies were later re-institutionalized under different names and remits as industry voluntarily reorganized under subsequent years of provisionary governments. In the case of Portuguese footwear, the Footwear Industrialists Association (AIC) was modeled on GNIC and created in 1975,

abovementioned subsidiary role to the JNPP and the State also required that it seek permission for all organizational initiatives. In the case of the proposed Câmara de Exportadores de Calçado, for instance, the organization was required to wait one year without any notification before the State rejected the idea in 1957. And shortly before the chamber proposal, the GNIC attempt to launch an annual industry member-financed magazine was equally disappointing due to the lack of enthusiasm from industry members; the initiative did receive initial funding for its first two issues in 1956/57, but GNIC was later forced to abandon the initiative due to the low number of industry subscriptions. GNIC additionally was responsible for negotiating minimum conditions for salaried work and social assistance with its industry members through the State–mandated 'contrato colectivo'. These contracts between the industry, GNIC and the State sought to curtail, as Gersdorff bluntly put it, 'the anarchy that reined in the realm of salaries and social responsibilities' (1961: 24, translated by author). But GNIC was unable to effectively monitor industrial activity in this regard. For those cases of unfair working conditions, the situation for those most affected was compounded by the fact that it was illegal for industry workers to hold public protest.[94] In light of the efforts by both JNPP and the GNIC, the 'third road' sought by the Portuguese 'sistema corporativo'—between 'capitalism' and 'socialism'—was largely ineffective. Thus its inability to flush out unfair domestic competition through its regulatory footwear ticketing scheme and other industry regulation and representation initiatives (e.g. ensuring minimum conditions for salaried work and social assistance through the 'contrato colectivo') made the efforts appear to be another unnecessary measure of bureaucracy, instead (ibid: 17).

In this regard, the Fundo de Fomento de Exportação's (FFE)[95] assessment of the footwear industry (von Gersdorff, 1961) reemphasizes GNIC/JNPP's limited accomplishments over the regulation and representation of industry footwear practices when it states that 'despite [the institutionalization of] various official, semi-official and private organizations, the footwear and leather industry remain[ed] completely disorganized'[96]. FFE attributed its view of the institutional incompatibility between GNIC and JNPP, in part, to a perceived lack of cooperative spirit among manufactures and their suspicion of institutional intervention, viewing industry institutions, like the FFE/JNPP, as 'enemies who only sought to spy for competitors or for the Ministry of Finance' (von Von Gersdorff 1961: 16, translated by

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which would later represent footwear, components and leather goods manufacturers under the name of the Portuguese Footwear, Components and Leather Goods Manufacturers Association (APICCAPS).

[94] All salary-related conflicts had to be referred to 'tribunais de trabalho' or work tribunals (von Von Gersdorff 1961: 17-18)

[95] Export Support Fund; the organization was later renamed Instituto do Comercio Externo de Portugal (ICEP) in 1982 after the fall of the Novo Estado in 1974. The organization has subsequently been renamed. Since 2005 it has been known as the Instituto das Empresas para os Mercados Externos, following its previous designation as Icep Portugal in 2003.

[96] JNPP was responsible to the Ministry of *Economia* and operated through the FFE. There was some initial hesitation by JNPP at to whether it ought to recommend the study for publication (Von Gersdorff 1961: 18).

author). Gersdorff even goes so far as to label the manufacturers as 'ferocious individualists' (ibid: 29).

> [I]t is very difficult to establish partnerships in Portugal (notwithstanding those created having achieved some 'exit') but, if those manufacturers clearly comprehend that they must unite in order to survive, considering Portugal is a member of EFTA, then maybe they will realize its necessity (ibid: 29, translated by author).
> They need to keep in mind that arguing with one another, as they often do, constitutes, today, authentic suicide (ibid: 15, translated by author).

Nevertheless, the overall tone of the FFE assessment was constructive in its emphasis on cooperation. It pressed the need for new measures in areas such as industry training, production cooperatives, micro-credit lending, and technical and quality control. But the degree to which these points influenced subsequent initiatives such as the establishment of the industry's on-going regional training centre (CFPIC) in 1965, or the creation of the Laboratório do Controlo da Qualidade[97] two decades later in 1981, remains uncertain.

What *can* be said for this period of industry transformation and institutional change (Tbl. 5.25a), however, is that Portugal had recently joined EFTA (1960) at the time of von Gersdorff's (1961) report on the footwear and leather industries. It also was at the tail end of a period of significant growth rates in Portuguese industry and the eve of the country's military campaign in Africa which would later contribute to the collapse of the Estado Novo government. The situation with the footwear industry at the time therefore had to contend with State conditions on selected industry imports which penalized, in this case, footwear manufactures who sought more technologically advanced machinery to increase productivity. In effect, the Novo Estado's conservative industrial policies, which aimed to protect its domestic market from foreign imports, ultimately limited industry export potential for selected industries like footwear manufacturing. As a result, the intensified domestic competition engendered fierce rivalry between the more flexible, legally precarious, micro-enterprise firms and those seeking to increase productivity output through routine production.

With the support from footwear manufacturers von Gersdorff (1961) and, more explicitly again years later, the AIC (1978) suggested that laissez-faire policies licensed these micro-enterprise artisan firms and failed to appropriately regulate them (i.e. JNPP), posing a significant danger to the future survival of the industry. Among the complaints levelled on these artisan firms were concerns with consumer and retailer demands for numerous and diverse footwear models. These concerns appear to have been attributed to mounting domestic consumer pressures for customized footwear production that was technically and financially

[97] Whether influenced by the 1961 FFE study (Gersdorff) or not, the explicit push for a technology and quality control centre by the *Associação dos Indústriais do Calçado* in the late 1970s (1978) led to the establishment of the *Laboratório do Controlo da Qualidade* in 1981 that was later incorporated in the *Centro Tecnológico do Calçado Português* (CTCP) in 1986—an autonomous semi-private organization that currently operates closely with the footwear trade association, APICCAPS.

infeasible for the larger footwear plants, but to which the micro-enterprise artisan firms answered well.[98]

> (...) Conclusions: (...) – That we seek, through adequate legislation, to avoid the 'pulverization' (emphasis added) of the industry, refusing the establishment of production units without the minimum of technical and economic conditions that largely have impeded the due course of our business development (AIP 1965, quoted in Aic 1978: 5, translated by author).
> The Portuguese footwear industry is a highly 'pulverized' [emphasis added] business structure with a predominance of small artisan firms. In this way, the sector is similar to its industry counterparts with two important differences: on the one hand, the proportion of miniscule establishments is greater in Portugal (…), on the other hand, while medium and large (>200) enterprises abroad assume a considerably important role in their respective sectors, among us they are practically inexistent (Banco de Fomento Nacional, 1974, quoted in Aic: 11, translated by author, c.f. Gersdorff 1961: 28-29).

In his industry assessment, von Gersdorff (1961) even went so far as to suggest 'educating' the retailer and consumer. The AIC echoed these industry concerns again in 1978 when it highlighted the unfeasibility of short-series production demands by consumers and retailers for the organization of production among larger footwear producers:

> (…) [t]he second conditioning factor of the abovementioned footwear industry business structure—the 'pulverization' (emphasis added) of the commercialization apparatus of the internal market—negatively assumes, in this context, two forms: on the one hand, halts the process of disposing of artisan production units, while, on the other hand, contributes to the discouragement of the expansion of existing firms and the establishment of larger ones (Banco de Fomento Nacional, 1874, quoted in Aic 1978: 11-12, translated by author).
> (…) [t]he small dimension of the internal footwear Market and the atomization and uncoordinated commercial apparatus which it serves, determine a parallel 'pulverization' (emphasis added) of the footwear industry, the result of an enormous multiplicity of different [footwear] models in minute production series, [making it] logistically impossible to programme production and supply raw material, etc. (…). A profound alteration of this situation would need to undergo concerted State intervention, simultaneously and coordinated at various levels: commercialization of internal market, export promotion, business restructuring, training of industry manufacturers and managers, fashion design, routine quality control (Ministério de Inovação e Tecnologia, IV Governo Provisório, 1975, quoted in Aic 1978: 14, translated by author).

Though, the resounding institutional concerns with threats posed by the flexible survival tactics of micro-enterprise firms on larger establishments, as often expressed under the rubric of imminent industry 'pulverization', suppressed any possibility for appropriately addressing the needs of all firm large and small.

> The factor that undoubtedly contributed to this situation is the fight for survival by small production units that compete with larger firms, pursuing one thousand and one strategies (under pricing, tax evasion, and the supply of numerous models) (AIP 1975, quoted in Aic 1978: 16).

Consequently, the pressure to regularize large routine production series found its rationalization under the influx of FDI in the 1970s and 1980s through subcontracted production orders (see 'neo-institutionalization' phase, Tbl. 5.25b). But as foreign investments wore off and international competition mounted, the need to accommodate diversification and small series production returned albeit in an altogether different internationally politico-economic context as the perceptions of challenges to industry lie in the increasing ability to respond quickly to diverse consumer demands.

[98] According to the AIP in 1965, 80 percent consisted of less than 15 employees (quoted in Aic 1978: 5).

> In this context, the success of a strategy, stability has become myth. In this context, the success of a strategy does not solely rest on a capacity to adapt and respond quickly to alterations but by anticipating change, by integrating it, and, at last, by becoming an agent of change (APICCAPS 2000[ca.]: 18).

The above influx of FDI during the 1970s and 1980s subsequently gave rise to the Felgueiras conurbation of concentrated footwear activity and the establishment of the second regional footwear training centre in the city in 1972. Though, it was also during this period when national political instability reached historical proportions with the fall of the Novo Estado in 1974 and the rise of proletariat party representation and uprising. Shortly following the establishment of the AIC in 1975 and another exhaustive industry assessment (Aic 1978)[99], 1979 marked a significant year for the workers movement during which national protests, factory takeovers and the first fair negotiations for minimum salaried working conditions culminated (Grenha 2005) – just over a decade after the creation of the JNICT and coinciding with a fledgling national system of science and technology (NSST) (see discussion of early formation of S&T/I policy, Sec. 5.2.1).

The following years witnessed some stabilization of the industry's institutional grounds with the establishment of the industry's first quality control facility together with the restructuring of AIC[100] and CFPIC[101] in 1981; the newly restructured industry workers union joined hands with CFPIC and AIC in 1984. The anticipated prospects of European accession on national development and the increased public spending in the years immediately following European accession in 1986 concomitant with a continuing influx of FDI would prompt a flurry of institutional activity. In just two years, CFPIC opened three additional training centres from 1985 to 1986.

This resulting flurry of institutional activity would mark the start of the last and current phase of Confraria's (1999) Portuguese industrial policy (trans)formation process (see 'process management', Tbl. 5.25b). Whereas the 1990s proved to ba period of exceptional economic growth and renewed institutional activity via EU-financed collaboration, it also was consistent with a gradual reduction in FDI and divestment in the Portuguese footwear industry toward the end of the decade (see Tbls. 5.11-5.12 for consequential unemployment effects from 2004 to 2006). As evidenced by the industry's participation in specific measures of PEDIP I (1988-1993), an 'elite' group of footwear industry firms emerged concomitant with an increase in industry performance albeit unevenly distributed (APICCAPS 1994: 7). The first half of the 1990s also mark the start of a more regularized strategic industrial planning approach by APICCAPS, which continues to the present day—in large part, attempting to coordinate with European structural funds (APICCAPS 1994: 17-19; 1996, 2000 [ca.]: 7).

[99] This study would be the first of a family of strategic industrial planning documents
[100] AIC was restructured under its current designation—APICCAPS.
[101] CFPIC was restructured with a new partnership between the Employment and Professional Training Institute (IEFP) and APICCAPS.

> The efforts primarily undertaken by the sector after the late 1980s, in design, quality control, industrial promotion, increased productivity and flexibility inducements, organizational and technological innovation was widely recognized and made visible through its use of the financial assistance made available during this period (above all, PEDIP, but also, PRISMA and RETEX) (APICCAPS 1994: 7).

From the mid-1990s onward the growing pressures of divestment and global competitiveness pushed the agenda on value-added design content through short series production. The result was an unprecedented tech-led effort between industry, technology research institutions and the State to facilitate this process, which resulted in new technological applications of water-jet and laser technology to the cutting phases of footwear manufacturing as well as new production floor developments in the automatic transport of footwear components for eased assembly and finishing toward the '(...) construction of a 'new' industry in Portugal' (APICCAPS 1996: 14). Though, in 1994 the trade association owned up to the fact that much of its previous industry assessments-based solutions had been 'mechanically' applied, failing to accommodate for the 'nuances' of individual business and sector practices (APICCAPS 1994: 23; APICCAPS 1996: 3).

Two years later, in a more articulate manner, it shed light on the large financial commitment necessary to launch new footwear design trademarks that, according to industry studies, have in most circumstances only a 10-0 percent success rate! The report went so far as to suggest the existence of an emergent industry 'lacuna' between these costs and other factors such as the persistence of risk adverse behaviour[102] and industry management training deficiencies, which have overcome previous concerns with the persistent disproportionate share of small and micro-enterprise firms and the sector's consequentially overwhelming inability to set its own prices (APICCAPS 1996: 6-8). It was, then, shortly following the start of CSFIII in 2000 that APICCAPS published its strategic plan in [ca.] 2000, Unlike earlier industry plans, the current tone of rhetoric on the internationalization of national footwear production has been mainstreamed through institutional support from the trade association itself and the Instituto das Empresas para os Mercados Externos de Portugal, ICEP Portugal (hereafter ICEP),[103] and their combined support of international excursions of invited industry members and high-ranking national politicians to Brazil and China.

In retrospect of the above synopsis of the decades-long history of Portuguese footwear manufacturing, it is important to note that this economic sector never has been directly subject to State policy intervention until recently. From the 1930s to the 1950s during which JNPP exercised significant powers over the industry, the footwear industry only benefited from

[102] Risk adverse behaviour is stereotypically associated with the reproduction of routine production, or a non-protagonist attitude toward the risks associated with innovation diffusion or its adoption. To some degree, this attitude has been described as culturally embedded or generational (cf. APICCAPS 1994: 24; 1996: 7). The 1996 industry assessment links this behaviour or 'impasse' to a wider concern with the 'nature of psychological factors in the determination of current difficulties experienced within the industry', namely 'European consumer pessimism' and a 'crisis in the confidence of Portuguese society' (APICCAPS 1996: 2-4).

[103] Re-institutionalization of the Fundo de Fomento de Exportação

national policy measures because of its endeavour to improve the national agricultural industry and the concomitant rearing of cattle. Fifty years later, the lack of direct policy intervention in the footwear industry has remained largely unchanged. Even despite this chapter's earlier discussion of the brief experimentation with national cluster policy through PROINOV (2002-02), the industry has never been subject to any 'explicit' national industry cluster programme (Ec 2003). But the introduction of the DÍNAMO (2003-06) programme, in recent years, begins to recognize the combined weight of the textiles, clothing and footwear industries in the Norte-Centro Litoral (N-CL) region.

5.4 CONCLUSION: PERCEIVED 'CHANGE' AND COGNITIVE SPACES OF AGENCY

This chapter has brought a consideration of intersecting and/or parallel processes of historical change to the discussion of political-institutional environments through which Portuguese footwear industry transformation has been manifest. These observations reflect, to borrow from Amin (2001: 1240), a 'kind of historicised institutionalism [that] is markedly different from an understanding of institutions as trans-historical laws or structures with transcendental powers'.

This consideration has brought to light two distinct facets of these political-institutional environments. The first has examined innovation-enhancing institutional formation in the Portuguese round about to S&T/I policy. This meandering pursuit has witnessed historical periods of political destabilization and reorganization of State powers, which consequently have departed from previously more territorially articulate policy concerns over regional development issues; that is, an apparent 'divide' between science and technology policies on the one hand, and enterprise and industrial policies on the other. The second discussed facet has considered the parallel albeit inter-related (re)institutionalization and restructuring of the Portuguese footwear industry. Together both of these facets have been consistent with distinct historical periods in the industrialization and modernization of the country.

An underpinning concern of the above discussion of these political-institutional environments as well as of this investigation has been a concern with the distinction between change and innovation. As noted in earlier chapter discussions, 'innovation requires change, but change is not necessarily innovative' (Jones 1978, quoted in Berglund 2004, cf. also Johannessen *et al.* 2001). In other words, whilst change occurs both in space and 'place' as the context-specific product of innovative agent interactivity, it also implies 'history'. With particular regard to this interrelatedness of both innovation impetus and transformation-associated change in the space of Portuguese footwear industry transformation, this investigation has sought to *avoid* confusing a characterization of change with that of

innovation. This concern for the distinction between change and innovation rests on a 'total history' reasoning of historical account.

A 'total history' reasoning of past events contrasts with traditional approaches to historical study. Whereas traditional approaches focus on political or high-ranking figures and institutions and their motivations and intentions as explanatory factors of historical events, accept historians' objectivity, and emphasize administrative documents as a key source of historical inquiry, the 'total history' reasoning of this investigation associates the space of industry-regional transformation to any number of individuals, events and institutions. Chapter 5 has embraced this reasoning in its discussion of the above two facets of political-institutional environments through which Portuguese footwear industry transformation has been manifest. Again, that is an account of the distinct yet interrelated innovation impetus of S&T/I policy pursuits that have translated into agent interactivity within the footwear industry and the concomitant historical periods of national industrialization that have contributed to transformation-associated change reflected in industry (re)institutionalization and restructuring.

Though, on the back of this political-institutional context and its 'total history' reasoning, any attempt to bring differing institutional perspectives on industry and regional uncertainties must be able to articulate the relationship of agency to structure. That is, an ability to articulate actors' meanings, activities and motivations ('lifeworld') and its reciprocal relations with culture, institutions, power, and reproduced practices and social relations (systems) (Layder 1998). *How is a social phenomenon such as change conceived by different agents, who may be driven or constrained by individual and organizational world views, or working within functionally differentiated spheres of interactivity yet endowed with different and often unequal powers and resources?* In the wider context of business concerns and public apprehension, reflected in intense and often unstable industrial and political restructuring, and in institutional change and conflict, *what has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry-regional transformation?*

The following two chapters have explored the interplay of both institutional and behavioural dimensions of change in the answers to these questions, particularly examining self-regulatory and representative demarcations of industry-regional transformation. That is, understand how agents reason and manipulate their work environments to preserve their representative interests in and self-regulating influence over the multi-jurisdictional space of such transformation – notwithstanding their institutional constraints (Chapter 6) and subsequently map these voices or perceptions of change across regulatory and representative spaces of interactivity (Chapter 7). In other words, Chapters 6 and 7 have offered a theorization and continued discussion of multi-agent reasoning of change, and the means

through which business and public agency knowledge of change has been produced and translated into everyday practice.

In the following chapter discussions, therefore, change is an ‘intransitive’ ‘reality’ independent of agents’ differing perceptions, or understanding and experiences of it (‘transitive’). This ontological reasoning has been a necessary preconception of this investigation because it has helped structure the study of complex ‘lifeworld’-system interlocks of behavioural and institutional dimensions of agent interactivity. On an epistemological level this ontological standpoint has helped address the central objective of this investigation, which has aimed to elucidate the links between agents’ perceptions change in the space of industry-regional transformation and the practice of their knowledge of it. This has involved a consideration of different industry and regional knowledge forms and processes that have underpinned interconnections between agents’ predispositions toward change (behavioural dimension) and the social settings (institutional dimension) in which they are played, whilst carefully distinguishing between change as a dynamic social phenomenon or ‘reality’ (‘intransitive’) that is independent of agents’ differing (‘transitive’) experience and understanding of it.

Chapter 6 Regional Voices in a Multi-Jurisdictional Space of Transformation

6.1 INTRODUCTION

Chapter 5 has illustrated two distinct facets of the political-institutional environments through which Portuguese footwear industry transformation has been manifest. The previous chapter discussion has emphasized the need to consider intersecting and/or parallel processes of historical change in the Portuguese round about to S-T&I policy, and in the concomitant (re)institutionalization and restructuring of Portuguese footwear industry practices. This illustration has served as a context for the following discussion of industry and regional agent interactivity, exploring how agents reason and manipulate their work environments to preserve their representative interests in, and self-regulating influence over the multi-jurisdictional space of footwear industry transformation.

Many firms in the Portuguese footwear industry have taken to the challenge of rapidly changing consumer trends and the global concentration of TNC-controlled commercial markets through their establishment of own-brand manufacturing and out-production practices, introduction of new technological upgrades, and use of technical and professional training services by various industry organizations (EPF, CPFIC and CTCP). In other circumstances, several industry firms have collaborated in high profile business ventures with industry organizations (CTCP), regional universities and industry services sectors in specialized ICT and machinery (see Sec. 5.3.1b). Other firms, however, have been unable or unwilling to meet these challenges. Many of these firms have closed. And all have contributed to pockets of entrenched unemployment in the region be it due to firm closure, delocalization or downsizing (see Sec. 5.3.1a). The industry association (APICCAPS) claims that the delocalization of foreign capital by multinational enterprises has had the greatest effect on the Portuguese footwear production regions' unemployment rates. Though, the underlying structural factors of the long-term unemployment in the Norte's predominant footwear-producing areas involve several issues including late-industrialization (see Sec. 5.3.2) and industrial training and education policies. And faced with the largely unexpressed discontent of industry workers and unemployed, the national textile, clothing and footwear union federation (FESETE) has had to embrace the necessary conditions of economic competitiveness while continuing to negotiate higher industry wages with the industry association (APICCAPS) and encourage better working conditions. Lest to say, the Portuguese footwear industry consensus maintains, and much Government rhetoric dictates that the way forward lies in the organizational capacity to innovate.

This call for innovation in footwear manufacturing has implied the need to invest in new technologies to meet the short-series production demands of rapidly changing consumer tastes

through increased production flexibility and expediency. The call for innovation also has demanded the attention to new product lines and a positive attitude toward 'life-long' learning in the areas of new product development and commercial operations as well as in design. However, despite this consensus or common understanding, it remains necessary to redress the balance between institutional assemblages driving footwear industry innovation and other institutional ensembles with a stake in its transformation in order to gain a fuller appreciation of the self-regulatory and representative demarcations of these institutional arrangements. That is, to avoid conflating our understanding of change into a mere characterization of innovation.[104] *How is a social phenomenon such as change conceived by different agents, who may be driven or constrained by individual and organizational world views, or working within functionally differentiated spheres of interactivity yet endowed with different and often unequal powers and resources?*

The foremost objective of this research inquiry has been to establish an articulate understanding of how individual and organizational agent perceptions, or experiences and understandings of change are linked to agents' reasoned development and practical use of knowledge of change over time. Despite several shared perceptions of change, agents' development and practical use of their knowledge of change can greatly differ. That is, the development and practical use of their knowledge of change are less the result of differing perceptions of change outcomes than the identification of, or emphasis on different individual organizations, historical events and processes driving this social phenomenon.

In other words, whilst various agents share a common understanding of many of the inherent aspects of transformation in the Portuguese footwear industry, such as the steady introduction of flexible work measures, and innovation-led approaches to the introduction of new technologies, increased design-oriented production and client-centred product commercialization, they offer differing views on the contingent and necessary relations embedded in their broadly shared perceptions of change. In fact, Chapter 5 (Sec. 5.3.2) already has suggested the presence of differing views, alongside its discussion of the early institutionalization of the industry, through the historical tensions emerging out the industry's institutional complementarities and incompatibilities (Sec. 5.3.2a). In this discussion, the shifts in, or the breaks and continuities of agents' general perceptions or common understanding of industry transformation are both material ('coded') and discursive ('tacit') in the way of published documents and general discourse or industry 'buzz', respectively. That is, agents' reasoning or knowledge of industry transformation and its related factors as well as an ability to create, adopt and diffuse 'knowledge' through industry communication.

[104] The adopted analytical framework for this research, which is fully discussed alongside selected theoretical debates on innovation, agency and regional development in Chapters 2 and 3, has sought to avoid this outcome.

The significance of these structural breaks and continuities in agents' common understanding of industry transformation lies with the material and discursive communication of change, which are both encouraged through State rhetoric as well as the principal apparatuses of the Portuguese footwear industry's political influence over business and regional development agency. These material and discursive communications are products of a specific time and space in the process of industry transformation, often playing a critical role in agents' identification and anticipation of industrial change in light of uncertain industry circumstances. Furthermore, the working of these communications into 'crisis' narratives (Sec. 5.3.2a) and their propagation through the astuteness of their strategic manipulation of eminent industrial collapse by industry experts not only offers unique insight into the processes of institutional change but also provides a look at the coinciding perceptions of industrial change—especially in light of the mere fact that industrial collapse never revealed itself at any stage in the historical transformation of the industry!

The following chapter discusses the results of twelve semi-structured interviews as a series of change narratives. This discussion subsequently gives rise to a cognitive mapping exercise of which the results have been presented in Chapter 7. The cognitive maps offer a unique opportunity to re-examine the data herein as well as the footwear firm and industry funding dataset in the previous chapter (Secs. 5.3.1b and 5.2.1 consecutively). In other words, what has begun as a set of generalizations from the footwear firm and funding dataset in Chapter 5 has been detailed systematically through the presentation of a series of change narratives in the present chapter, which subsequently have been recast again as a set of new generalizations by reconstructing and abstracting the basic conditions of the interviewee responses through the interpretative lens of cognitive maps in Chapter 7.[105]

The following results of the semi-structured interviews are discussed over two sections (Sec. 6.2 and 6.3), followed by a third concluding section (Sec. 6.4). Section 6.2 briefly reintroduces some of the 'critical realist' thinking behind the heuristic techniques discussed in Chapter 4, offering an ontological context for the discussion of the results in Section 6.3. The discussion in Section 6.3 has been divided further into two distinct sub-sections that are consistent with the methodological implications of studying a social phenomenon such as change. Each of these two sections addresses a set of social relations identified in the respondent data on agents' differing experience and understanding of change, and the development and practical use of their knowledge of it. Section 6.3.1 employes the notion of 'price' as a unifying element of several industry transformation-related factors including its relationship to productivity, innovativeness and industry image. And finally Section 6.3.2 revisits the tension between self-regulatory and representative spaces of agent interactivity that

[105] The presentation of research results reflects the adopted 'adoptive theory' approach of this investigation, which has been firmly underpinned by a 'critical realist' philosophy (Danermark *et al.* 1997). See also Chapter 4 for further discussion.

has been suggested in Chapter 5, bringing a consideration of 'embodied', 'institutional' and 'relational' social structures to the discussion of results.

6.2 REASONING 'CHANGE': AGENCY, JURISDICTIONS AND UNCERTAINTY

Knowledge of the predictable effects or absolute 'knowledge' of social phenomena is impossible to obtain due to the nature of society as a complex of inter-dependent 'open systems' (Danermark *et al.* 1997: 66-70). Though, as preceding chapters have argued, useful knowledge of social phenomena can be attained through a 'critical realist' treatment of social phenomena when they are the object of study. This implies that social phenomena, such as change (the 'real'), must be treated as an ontological domain of 'reality' that remains objectively independent of externally held perceptions, or experiences and understandings of it (the 'actual'), ensuring that the attained knowledge or generalized accounts of social phenomena (the 'empirical) are focused on its causal mechanisms.[106]

Like other social phenomena, change albeit not always reducible to observable or empirical accounts is manifest through the individuals, events and processes that contribute to it. Though there is much potential for attaining knowledge of social phenomena, such as change, which can constitute several events and a host of individuals and organizations (see Chapter 4 for a comprehensive discussion). In the case of this research investigation, the unobservable dimension of change in the process of transformation in the Portuguese footwear industry is understood as the everyday realities from which agents can construct their own histories; and upon which they subsequently can legitimize their future organizational role in the process of transformation. In other words, these multiple, fragmented and contested personal historical subjectivities can be structured innately by agents' differing needs to communicate past contributions and accomplishments, and their desire to ensure a stake in the industry's future.

For this reason it is imperative to understand that social phenomenon, such as change, exists in all societies independent of specific social structures. In other words, a 'reality' (external/contingent) that remains independent of agents' experience and knowledge of it (internal/necessary).[107] For instance, the most observable changes in the Portuguese footwear industry have been strongly tied to industry promotion in light of a marked period of divestment in, and delocalization of footwear manufacturing activity by multinational enterprise from the mid to late-1990s, and the use of industry funding from various policy initiatives since 1986. The marked albeit gradual divestment and delocalization of footwear

[106] See Section 4.1 for discussion that lends itself to these three domains of 'reality' (i.e., the 'empirical', the 'actual' and the 'real')
[107] See Chapter 4 for discussion of 'transitive' and 'intransitive' domains of 'reality'.

manufacturing in the 1990s has left the industry with a majority of small and micro-enterprise firms, predominantly family owned and ill-equipped to enter a highly volatile fashion industry. This volatility has been structured on rapid changes in consumer trends and on increasingly globally stratified commercial markets, which have been largely controlled by retail agents and transnational corporations (TNCs) who increasingly invest the better part of their resources in commercial marketing so as to engender new markets for their products by the sheer scale of their investments in churning new consumer behaviour. Thus the above global market volatility of rapid changes in consumer trends and the concentration of TNC-controlled commercial markets can be understood as a set of 'external/contingent' relations ('reality') within which a set of 'internal/necessary' relations reflect agents' development and practical use of knowledge of change.

Each of these sets of relations has been addressed separately in Sections 6.3.1 and 6.3.2 below. Furthermore, whilst it has been essential to include both sets of relations for the purposes of providing a more informed understanding of their distinct albeit integrated nature, the latter set of relations has been largely the focus of this research investigation and its effort to bridge agents' differing perceptions of change, and the development and practical use of their knowledge of it. What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry transformation?

6.3 PRICE RELATIONS, AND SELF-REGULATORY AND REPRESENTATIVE SPACES OF AGENT-ENVIRONMENT INTERACTIVITY

The following passages present and discuss respondent data from the first qualitative study of this investigation. In this first study, twelve organizations have been asked to recount their experience of change in the space of industry transformation.[108] In other words, the semi-structured questionnaire has been designed to elucidate probable links between agents' perceptions of change and the development and practice of their knowledge of it. Furthermore, the selection of interviewees has been reasoned on a 'total history' of change, associating the space of industry transformation to any number of individuals, events and institutions; as discussed at length in Chapter 5, this reasoning has motivated efforts to clearly distinguish between change and 'innovation' because one does not necessarily denote the other.[109] The

[108] Interviews were administered between February 2006 and January 2007; this data also includes notes from informal conversations with many of the interviewees previously held in person during fieldwork visits to Portugal (see Chapter 4 for discussion). All interviews have been transcribed in Portuguese within the technical language limits of the author. Select passages have been translated by the author and included in this chapter; the remainder of the interview transcriptions (in Portuguese) has not been included in the Appendix of this investigation, but they may be obtained for review upon request.
[109] See introductions to Chapters 4 and 5 for elaboration.

remainder of this chapter draws together select passages from different organizational accounts of industry transformation and institutional change hereafter referred as change narratives.

Lastly, many of the interviewees' accounts of industry transformation have been suggestive of distinct realities that constitute an intertwining of both 'external/contingent' and 'internal/necessary' sets of social relations. For example, the 'price'-setting powers of commercial retail agents over the cost of footwear products and concerns with the impacts of national and industry image on firms' ability to set higher prices for their products have been largely 'external/contingent' social relations as opposed to 'internal/necessary' ones that can constitute established individual worldviews and/or 'mentalité', resource allocation and organizational arrangements, and everyday agent interactivity. Moreover, the intertwining of these two ontological domains of 'reality'[110] has raised the following question: how is change conceived by different agents working within functionally differentiated spheres of interactivity, driven by individual and organizational world views, and endowed with different and often unequal powers and resources?

The following discussion of 'external/contingent' social relations embodies the notion of 'price', which has been implied by interviewees as a unifying element of several industry transformation or change-related factors, including its relationship to productivity, innovativeness and industry image (Sec. 6.3.1). This section provides a first look at agents' perceptions or experience and understanding of change. The section that follows on 'internal/necessary' social relations (Sec. 6.3.2) builds on these agent perceptions, highlighting the links between agents' perceptions and their differing development and practical use of knowledge of change within a multi-jurisdictional 'space of transformation'.

6.3.1 'Price', Fashion Brands and Industry Image

The influx of FDI in the Portuguese footwear industry during the 1980s and the gradual albeit marked divestment from the mid- to late-1990s has left a lasting impression on the minds of those still working in the industry. The 1980s are repeatedly recalled as a period of abundant work. The production of multinational firms largely consisted of long-series production, which was in part secured by their integration with global value chains as well as their physical proximity to the end-user or consumer. This proximity provided feedback on consumer needs via direct ownership of retail chains and distribution channels not to mention the ability to engender new consumer behaviour through commercial marketing. These multinationals directly employed hundreds of women in the Ave and Tamega, and Entre Douro e Vouga regions (see Fig. 5.4), and indirectly employed many small and medium-sized enterprises

[110] That is the 'actual' or experienced and the 'real'; these are two of the three ontological domains discussed in the introduction to Chapter 4.

(SME) through the periodical outsourcing of production. The benefits even extended over to micro-enterprises at times when workloads of the SMEs were unmanageable. But the pressure to find new production orders soon became necessary as the gradual divestment and delocalization of large multinational manufacturing activity intensified. For the hundreds of workers directly employed by the multinational enterprises, it resulted in unemployment. For others, however, it became an opportunity to establish new manufacturing facilities through micro and small enterprise, providing a renewed albeit limited opportunity for both direct and indirect employment in the wider region (see Chapter 5 for discussion).

But, along with the divestment and delocalization of footwear manufacturing activity in Portugal, there was a new commercial reality for many firms unfit to accommodate the changes of increasingly globalized commercial markets. This new global perception by many firms included the harsh realization of having to compete with undercutting competition from low-wage production worldwide. It also meant that the marked 'seasonality' of footwear demand during spring, summer, autumn and winter was more ambiguous, and consumer tastes more diverse due to the global reach of commercial markets. These changes immediately raised concern with established production practices upon which many firms had built their knowledge of the industry. This recognition of the need to change by firms and industry support organizations resulted in a number of concerted efforts to radically reverse the established practices of mass-produced or long-series production in favour of short-series approaches. The 'price-oriented mathematical products have no chance' as noted by the Director of Fashion Industry Commerce at the Portuguese National Chamber of Commerce (ICEP) (E. Neto 2006, pers. comm., 08 February).

The industry restructuring responses to these global perceptions has been discussed via agents' notion of 'price', which has been suggested in their accounts of the (1) distinction between 'productivity/quality', and the production of fashion and what it means to be innovative (hereafter 'innovativeness/fashion') (Sec. 6.3.1a). This notion of 'price' also has been a continuous element of agents' account of the (2) generation of fashion brands; that is, in the face of broad agreement over the need to invest in design and product commercialization, which is commonly manifest in new fashion brands, this part of the discussion has outlined what can be claimed as the challenges of 'continuous innovation' in the fashion footwear industry. And, lastly, the notion of 'price' has suggested agents' (3) association of industry performance and national image to the upward-pull and downward-push on 'price' (Sec. 6.3.1c).

6.3.1a Productivity, Innovativeness and the Perception of 'Price'

Long-series versus short-series production approaches simply imply the length of time any particular model of shoe is produced. Long-series production lends itself to a mass-produced product, which is often associated with a low-end and/or low-cost product aimed at undercutting the price of competing products. On the contrary, short-series production provides the answer to increasingly globalized commercial markets marked by a high degree of uncertainty with respect to consumer fashion needs and undercutting low-wage production. It also has begun to represent newcomer high-end production firms increasingly more geared toward design/prototype production for long-series production firms as well as long-established and widely-recognized fashion houses whose production is primarily outsourced. The distinctions between these two production practices do not constitute particular firms (i.e. long- or short-series producing firms). In other words it is not uncommon to have both production approaches practiced in tandem among other strategic approaches, including but not limited to subcontracting the design and production of footwear prototypes.

In the particular case of the Portuguese footwear industry, the following change narratives continuously have highlighted how Portuguese footwear firms have had to unlearn established long-series production practices for a more flexible approach that ensures the rapid turnaround of a quality-certified product, which is both design-intensive and well constructed. And whilst 'productivity/quality' have continued to constitute what it means to be 'competitive' in the fashion industry, 'innovativeness/fashion' has suggested a desire to sustain industrial restructuring efforts to overcome the challenges of global fashion and accessories markets. Undisputedly for many, like Director of Finance for EJECT, João Barbosa, this understanding implies a 'move from a […] strategy of large [production] quantities to that of fashion, brands and innovation (J. Barbosa 2006, pers. comm., 27 July). This view, which generally has been held or shared by other business and regional organizations in the area, has argued that a product design emphasis or a need to innovate is imperative as stringent global economic conditions due to a combination of geo-political implications from production quotas to divisions of labour and continuous rapid shifts in consumer behaviour continue to pressure local and regional development into a state of necessary change.

In fact, Barbosa has distinguished this innovation-oriented approach or 'estrategia-innovação' ('innovativeness/fashion') with that of a 'know-how' approach or 'estrategia saber-fazer' ('productivity/quality'), which simply has acted on available resources and has obtained necessary production volumes in line with a survivalist instinct. 'There is only one way, the way of fashion and of innovation […]. There is no other way' (J. Barbosa 2006, pers. comm., 27 July). This view again has highlighted the importance Barbosa has attributed to an innovation-oriented approach as opposed to one purely based on production 'know-how'.

'[O]ur price, our 'quality' has little worth'; he claims, 'it is not relevant' (ibid: 2006). In other words, as Barbosa stresses:

> [W]hat happened in years past, in terms of the development of the footwear industry, came about as a result of export growth, of industry expansion, gradual increased market presence and association with major brands – but always from the position of large-series production. In other words, it always evolved from the standpoint of more production (productivity) and quality. But these two factors were not possible without design [innovativeness/fashion] (J. Barbosa 2006, pers. comm., 27 July).

Thus, whilst 'productivity/quality' factors predominantly have implied what it has meant to be 'competitive' in the footwear industry, logically it is fair to assume that 'innovativeness/fashion', in some cases, has had an associated albeit undervalued role in business strategies of the past. But it seems apparent that 'innovativeness/fashion' factors increasingly have become the focus of industry objectives.

The fundamental premise upon which Barbosa has made his assertions and upon which one could allow this standpoint to encompass other firms and organizations in the industry and region revisits the notion of productivity/quality, and its role (relative to 'innovativeness/fashion') in the past and future transformation of the industry. 'I am convinced', claims Barbosa, 'that their [Asia's] advantage, in terms of productivity, is less than ours' (J. Barbosa 2006, pers. comm., 27 July), emphasizing further that:

> [There are] two questions: price and quality; quality because the factory knows how. That is not the way Portugal, or Spain or the European Union will be able to outmanoeuvre them [Asia] (J. Barbosa 2006, pers. comm., 27 July).

Barbosa goes further to suggest that Portugal already has both the 'productivity/quality', reemphasizing his view that future business strategies must have an 'innovativeness/fashion' focus.

> It is not by way of quality. It is in the price […] that they [China] will defeat us. Therefore that [price] is not the way to the solution […] I am convinced that their advantage, in terms of productivity, is less than ours! I believe the Portuguese can produce 10 pairs, while the Chinese can only produce 5. But direct labour costs compensate […]. That is, the price of manual labour [low-wages] compensates for this shortfall in productivity (ibid: 2006).

Fernanda Moreira, President of the regional footwear labour association SOICAL, seconds the view:

> […] the direct labour costs are cheaper, but they are also slower; they do not produce as much as we do. They do not have the response capacity that we have and they do not have the quality that we possess (F. Moreira 2007, pers.comm., 15 January).

However, whilst speaking for the whole of the Portuguese footwear industry, Barbosa admits that industry productivity has its 'irregularities'.

> Our strategy in the past […] was one in search of subcontracted work. I continue to say that there exist many irregularities with respect to productivity [today]. Firms increasingly sought out business strategies based on volume [of long-series production]. Few understood at the time that they had to change. Why should I think in terms of a fashion brand or an innovation strategy if the large fashion labels are unable to meet their own production demands (J. Barbosa 2006, pers. comm., 27 July)?

This view has reinforced Barbosa's earlier stance on the distinction between 'estrategia saber-fazer' and 'estrategia inovacao', and his determinant claim that the industry must 'follow in the way of fashion and of innovation' (ibid: 2006).

As a result, 'price' evidently has been one of the predominant 'external/contingent' factors that most concerns industry firms and organizations in the region. In other words, the production of 'value-added' (high-fashion or high-innovation content) or 'quality' footwear product can yield higher wholesale prices. This is desirable as it can increase productivity at the firm as well as increase the monetary value of regional exports. But footwear product prices also can be quickly undercut by competition when fashion/design is open to imitation not to mention low-cost production. In other words the cost of producing a footwear product often can leave little in the way of profit when the costs of production approach the upper limit of attainable wholesale market prices, or when factory prices must be reduced to compete with comparable designs at a loss to the footwear producer. This is commonly the reality of many footwear producers in the region, having diverse repercussions throughout the industry in terms of the extent of firms' accommodation of necessary change.

Thus the notion of 'price' is two-fold. It is a tension between the aspirations for innovative/design-conscious footwear products, which are reflected in the high-end albeit smaller and extremely competitive market niches, and the under-cutting prices of low-wage producing facilities worldwide for comparable product lines. Though, this two-sided notion of 'price' can be somewhat of a mixed. In other words, between the aspirations for innovation/design-conscious footwear products and the competition from the under-cutting prices of low-cost products, the above notion of 'price' has become synonymous with the recognized limitations and/or challenges associated with 'wanting fashion' and the 'process of design'.

6.3.1b Fashion Brands, Innovativeness and Its Limitations

> If we are unable to rectify ourselves in that strategy [innovation], we will have lost (J. Barbosa 2006, pers. comm., 27 July).

'Innovation' in the Portuguese footwear industry has had different implications given the assortment of differing business contexts in the region, including but not limited to business structure, investments and networking. Though, it is fair to say that 'innovativeness' in the industry generally has implied both 'product' and 'organizational innovation'. Over the course of the industry's transformation and its accompanying institutional changes, 'organizational innovation' has been central to that success. A key aspect of this 'innovativeness' has been a demonstrated ability to accommodate new technologies into restructured production processes (i.e. long-series to short-series production). But, as continuing pressures to answer to the

demands for fashion, the industry prepares for a new set of challenges as Director of Finance at EJECT, João Barbosa, suggests when he states:

> We were at a standstill; the industry did not think. Now it is necessary to allow the industry to think a bit (ibid: 2006).

Barbosa's call for industry reflection follows his acknowledgement of the technologically-determinist efforts to modernize the industry[111], which now must be assessed in the context of product commercialization and internationalization of manufacturing responses. This unavoidably heightened attention to commercialization and internationalization responses commonly have been identified by the interviewees as an ability to establish lasting client relations, marketing and design. When these factors are respected, co-Partner/Director of Finance at SAVANA, Jorge Fernandes, argues that:

> [T]he industry can provide a return on investment. There is no more working as one worked half a dozen years ago. [One must] work toward the constant development of new products, and have a post-sale service perspective while ensuring the product is timely delivered to client retailers and sells (J. Fernandes 2006, pers. comm., 27 July).

According to Barbosa of EJECT, Nuno Fernandes de Oliveira, co-Partner/Commercial Director for BASILIUS, and Elza Neto, Director of Fashion Industry Commerce at the Portuguese National Chamber of Commerce (ICEP), a key aspect of this process has been the need to create and launch fashion brands.

> There is only one way, the way of fashion and of innovation […]. There is no other way. When one speaks of the way of innovation […], there has to be a brand, one has to know how to work a brand. (J. Barbosa 2006, pers. comm., 27 July).

> Firms must have a product brand otherwise they will not have a chance. Either they seek this road or they have none (N. F. Oliveira 2007, pers. comm., 12 January).

> If a firm does not have a brand that dominates distribution his product has vast constraints (E. Neto 2006, pers. comm., 08 February).

Though, as Barbosa argues, fashion brands are not easily come by:

> Now the step that I find is extremely important is the design step […] the fashion step because we do not have fashion. Everyone wants fashion […]. The whole industry knows that they have to produce in small series. […] It is very difficult to produce in small quantities; know how to produce in small quantities. […] And that is not easy. […] You can not create a brand and launch it in a year or two or three or four (J. Barbosa 2006, pers. comm., 27 July).

N. F. de Oliveira, too, echoes this view, but he additionally points to the pressures of continuously outmanoeuvring the price-cutting advantages of foreign competition.

> [...] One is unable to constantly innovate and pursue competitive advantages at a pace sufficiently rapid and significant in order to compensate the long-held differences in labour costs (N. F. Oliveira 2007, pers. comm., 12 January).

Eduardo Costa, Executive Director of the regional footwear training centre (CFPIC), delivers the above issues a striking blow. The long-established regional footwear training centre does not place the same weight on fashion brands or the registered trademarks of fashion footwear products as it does with commercialized, technologically advanced and

[111] The technologically-determinist orientation of footwear industry strategies largely coincided with the first two rounds of EU/State funding (CSFI - 1988-93/CSFII – 1994-99). Refer to Chapter 5 for discussion of parallel developments in Portugal's round about to S-T&I policy and its limitations, which partly explains the above orientation.

patented products and/or components with a fashion content. The training centre arguably makes its point with GEOX shoes, a registered trademark, stressing how it is a fashion footwear product with a patented and technologically advanced sole[112] as opposed to one purely based on design (E. Costa 2006, pers. comm., 06 February). In closing on this view, CFPIC assures that it is a stark supporter of design and that it does see it as a way forward. It also adds that, in light of the continued 'irregularities' of industry productivity, new technology investments in support of continued production mechanization must be rendered worthy of public investment.

In spite of the challenge to make short-series production work, to timely launch a fashion brand, to continuously innovate and outmanoeuvre price-cutting competition, or to find a more lasting foothold in the global fashion industry through patented, design through commercial branding has been a missing link in the recent transformation of the Portuguese footwear industry and an undisputedly imperative aspect of the industry's future development. In fact, Jorge Fernandes of SAVANA echoes those views expressed by Barbosa (EJECT), de Oliveira (BASILIUS) and Costa (CFPIC) with regard to the indispensable contribution of design to mounting calls for the commercialization of production and the internationalization of manufacturing and services. Like de Oliveira, Fernandes also recognizes how it is difficult to 'always stay in the market […] to constantly develop [new fashion lines for their footwear]' (J. Fernandes 2006, pers. comm., 27 July). But Fernandes offers a unique concluding view on the comments concerning what it means to be innovative, and how this carries through to fashion brands and the Portuguese footwear industry's future development.

> '[I]f the product reaches the store shelves and sells well after the initial production runs [series],' as SAVANA further explains, 'there is a product. If it does not, there is none; it is not [a product]' (ibid: 2006).

In other words, Fernandes has offered another twist on the notion of 'price' for the daily business 'reality' of footwear producers, which has continued to carry through as the leading 'external/contingent' factor of perceived change in the industry.

> If it [footwear] is not sold, only at reduced prices will it be sold. […] Be it industry or the business of clothing and footwear, we are the risk. […] if the product does not sell by the end of the season it is not worth 10, but 5 or 2 […] It does not have added value. In this way, investors have begun to understand the industry differently in recent years (ibid: 2006).

Fernandes takes this view to reflect two essential factors, which it identifies as the 'Zara' and 'economist' factors.

> […] Large share of commercial brands do not have a productive component. Until someone is able to rigorously measure the demand for the final product, a part of the demand for [new] brand products will have to remain in Europe […] because of the [competitive advantage it can offer through] rapid service, of the fashion component. I continue to believe that there are two factors [associated with the demand and feasibility and sustainability of commercial brands]: the 'Zara' factor and the 'economist' factor. Zara's success is its product rotation. That is, at the end of a given season it barely has any products up for reduced purchase; they may sell for less but they at least do not have to sell at reduced prices. Reason being they are close to production, close to the consumer; when a product does not sell well they will not take it on;

[112] The GEOX sole is breathable and water resistant.

> when it does there is a network of ready suppliers. The 'economists' will only buy what they know they can sell (ibid: 2006).

Both of these factors have forced most footwear producers into a difficult predicament. This is an observation that Barbosa echoes in his assertion that it is 'very difficult to produce in small quantities; to know how to produce in small quantities' (J. Barbosa 2006, pers. comm., 27 July). This claim has not been so much a mechanical challenge as it has been technical from an organizational standpoint. 'Zara' is a Spanish clothing retail conglomerate, effectively built upon commercial distribution networks. This has not been the case for the majority of Portuguese footwear producers in the region, forcing them to rely on retail agents and distributors to reach the end client. In turn, the 'economist' factor has suited those agents and distributors who only have taken what they are certain they can sell. Thus the limited access to commercial networks and the conservative purchasing practices of agents and distributors has placed a significant strain on medium-sized enterprises. 'Hence, today', argues Fernandes, 'everyone [producers] works with fewer resources, offering little margin for manoeuvre' (J. Fernandes 2006, pers. comm., 27 July). '[T]here are periods with a lot of work and periods with little work, and we are constantly seeking [additional resources]' (ibid: 2006), he adds, which reflects often rapid and uncertain shifts in consumer behaviour. As Fernandes aptly puts it:

> This has resulted in the increase of business risk and product costs, forcing investment-savvy businesses to have to purchase, sell, re-purchase, sell and re-purchase [in order to always stay in the market and continuously innovate] (J. Fernandes 2006, pers. comm., 27 July).

In the following section, the notion of 'price' has taken yet another turn. This third and final section has followed the earlier discussions of 'productivity/quality' factors as distinct from those of 'innovation/fashion' in the first section, and of the above implications for 'innovativeness' in the second. In the following section, perceived change in the space of industry transformation has been coupled with unsubstantiated claims that hold international perceptions of the industry responsible for the suppression of wholesale prices on Portuguese footwear. This has provided another unique example of the 'external/contingent' factors associated with differing agents' perceptions of industry transformation through which 'price' is yet again a fundamental aspect of industry perceptions.

6.3.1c Traversing the Banal: Consumer Behaviour, Industry Image and Nationalism

As already mentioned, the Portuguese footwear industry is largely composed of SMEs. There was an immediate proliferation of micro-enterprise firms as well as significant increases in small and medium-sized enterprise following the pull-out of several multinational firms in the late 1990s. Prior to this delocalization of multinationals, Portuguese SMEs primarily sustained themselves through subcontracted. Those firms that did not phase-in own-brand manufacturing or invest in technological upgrades during this period have risked closure as the continued

globalization and concentration of footwear manufacturing has resulted in diminishing production orders. Though on the back of FDI in the sector and region during the 1970s/1980s, those firms that responded through renewed or 'innovative' business practices claim they have had to counter the negative perceptions of international buyers in the process.

According to the Executive Director of APICCAPS, Alberto Jorge, the need to counter these negative perceptions became apparent when the industry began to take significant strides in quality footwear production.

> From the moment Portuguese footwear exports began to break from a competitively inferior low-market product and to recognize the need to demonstrate its capabilities through the intrinsic value of its products, it was at that precise moment when the products began to evolve rapidly. But the market did not acknowledge that progress in a way compatible with the costs that footwear products incurred; it did not acknowledge the reform of past practices with a fitting price and always penalized the product – instead of a 'price-premium' it was a 'price-punishment' [for being a Portuguese product] relative to our competitors in Italy and above all in Spain (A. Jorge 2006, pers. comm., 09 February).

Following an account of their unsuccessful struggle to rectify the negative impression of the sector as an 'industry of the poor […] of less developed countries' in the media, President of FESETE, Manuel Freitas, considers the 'problem of image' a serious one, echoing the above 'price-punishment' theory by APICCAPS' Alberto Jorge.

> [The] problem of image jeopardizes the industry. [For] Italian shoes […] any one [agent] is willing to pay one or two Euro more. But for the Portuguese [shoes] they are not willing to pay one or two Euro more. This question of image is very serious (M. Freitas 2006, pers. comm., 07 February).

Alberto Jorge extends this view and fervidly attributes the problem to a poor national image, forcing APICCAPS to launch its own campaign to counter market perceptions nearly two decades ago.

> Portugal is a poor brand. Portugal is not a brand that adds value to its products; contrary to our competitors, it takes value from our products [reduces attainably higher price margins]. Thus for many years we had the need to dedicate resources to the institutional establishment of the Portugal brand and the promotion of sectoral brands like the collective brand 'Portugal Quality Shoes', so that firms could then take their own brands to the market and commercialize them on grounds [national reputation] more closely approaching that of their competitors (A. Jorge 2006, pers. comm., 09 February).

Oddly, similar concerns with international perceptions were not raised by the footwear business firm interviewees. To add to this rather unsubstantiated claim, an opinion survey of Canadian buyers of Portuguese footwear, which was commissioned by the Portuguese National Chamber of Commerce (ICEP), does not suggest any bias that could have contributed to the price-suppression described above (Icep 1998). Yet the ICEP Director of Fashion Industry Commerce, Elza Neto, seems to echo the perceptions that led Alberto Jorge of APICCAPS to launch its 'Portugal Quality Shoes' campaign when she suggests that the country's relatively low-wages may have been linked to national and international perceptions of an under-developed industry.

> [W]e had very low-wages, but quality and good workers. Thus that left marks on the industry (E. Neto 2006, pers. comm., 08 February).

This view is seconded by Fernanda Moreira, President of the regional footwear labour union SOICAL, who attests to the quality of footwear when she states the industry has an 'image of being good at making footwear' (F. Moreira 2007, pers. comm., 15 January), despite continued low-wages. The President of FESETE, Manuel Freitas, embraces all of the above claims when he states:

> [To]day [there] are the changes in the pattern of [industry] operations and organization. We work with high quality, value-added mid-market products via production, design, fashion brands, commercial networks and distribution. But in terms of labour relations, there is no corresponding distribution of profit; salaries remain too low, too (M. Freitas 2006, pers. comm., 07 February).

These legitimate concerns with industry image may be attributed to the limited international exposure that Elza Neto, of ICEP, suggests is a more likely cause for the price suppression. This limited exposure, she argues, may have left many unfamiliar buyers, opting largely on hearsay, and often unsure of their ability to sell Portuguese footwear products.

> Portugal […] does not have much international exposure. [In fact] it is unreasonable to allow trade fair access to firms that operate largely in the regime of subcontracted work. As a consequence of having done so, however, Portugal has limited international exposure through private label. All of this is connected to the proportion of supply from [national] private label versus foreign brand manufacturing, which has resulted in the relatively small international presence of [Portuguese] own-brand manufactured footwear (E. Neto 2006, pers. comm., 08 February).

Alberto Jorge of APICCAPS seconds this view. Regardless of the apparent need to increase footwear firms' international exposure, he finds the 'Portugal Quality Shoes' campaign, which APICCAPS began nearly two decades ago, never fully grasped the attention of policy makers.

> I consider, in this case, that we are far from what is necessary and possible. We did not advance further because we consider the Portuguese image, the institutional image, to be a public good. In other words, it [the national image] is a matter of Portuguese society worldwide, not just that of the footwear industry or other sectors of [economic] activity. [A]nd as a public good there is a much needed investment from the Portuguese State and society. But it so happens that the State never recognized this priority to the extent that it provided the necessary resources [for its development]. Thus the campaign was never realized (A. Jorge 2006, pers. comm., 09 February).

This determined view can be traced back to an extraordinary development in the industry association's strategic plans. A revision of APICCAPS' 1994 strategic plan in 1996 placed the business community's as well as the Portuguese society's general frame of mind at the root of low industry performance results. In spite of this apparent threat to industry productivity, the Executive Director of APICCAPS, Alberto Jorge, is confident the situation is improving for footwear business firms. Though when asked to comment on APICCAPS' preoccupation with the footwear industry consequences of negative international perceptions, interviewed firms provided several alternative factors among which were the 'price'-related factors noted earlier. Nevertheless, Alberto Jorge claims, the 'Portugal of today is a different Portugal', suggesting, in a seemingly pseudo-nationalistic tenor, that:

> [V]arious institutional events have contributed to the betterment of the Portuguese image […] EXPO 98 […] European Cup 2000. [They demonstrated] that we have capacity, know-how and competency for organization [emphasis] (A. Jorge 2006, pers. comm., 09 February).

Surely, socioeconomic progression in Portugal may have contributed indirectly to other areas of observed development in the industry. But whether one can suggest that an improved national image via national development or 'progress' can and/or should be linked to international perceptions of Portuguese footwear industry remains unsubstantiated. In fact it is more likely that the apparent 'price'-suppression of Portuguese footwear products has been attributed to the industry's relatively recent international exposure – as suggested earlier by Elza Neto of ICEP. This late market entry of Portuguese own-brand manufactured footwear products can be linked to processes that have been responsible for the country's late industrialization (see Chapter 5 for discussion). Moreover, the influx of FDI and the industry modernization efforts of the first two (European) Community Support Frameworks did little to advance Portuguese own-brand manufactured products onto international markets. In other words, as long as production orders from multinationals were plentiful and Structural Funds were available for increased capacity and efficiency improvements, the majority of national footwear manufacturers had little incentive to launch a fashion brand of their own.

This concludes the discussion of three interrelated groupings of 'price'-related factors, which have been associated with agents' perception of change. Whereas the above discussion of 'external/contingent' social relations has included 'price'-setting powers of commercial retail agents, and industry concerns over 'continuous innovation' as well as international perceptions of the industry, the following section on 'internal/necessary' social relations has begun to explain the probable links between agents' differing perceptions of change and the development and practical use of their knowledge of it.

6.3.2 The Embodied, the Institutional and the Relational

Structure is all around us. But as individuals and organizations we are both constrained by differently structured environments as well as agents in its transformation. Also, as agents our ability to impart change can be limited. And the process through which we seek to impart change is a selective one, often reflecting a complex combination of self-interest, institutional conditions and relational influences. For instance, any rationale that we exercise as agents in structural change can be bounded by powers above and subsidiary to our own. That is the extent to which we can exercise our different and varying degrees of individual autonomy and loop others into our cause. These exercised powers of autonomy or agency take on many different forms. Some of which can have reciprocal affects on the instigating agent in the form of newly restructured relational environments. Consider the process of networking as a form of agency, for example. It can reproduce existing conditions as well as introduce a host of new opportunities, roles and responsibilities for those involved.

Furthermore, one must be careful not to reduce these relational environments to the interactive flows of knowledge and information. In other words if relational environments were limited to select 'knowledge' flows and its social structures, how would one then begin to hold agency accountable for the outcomes it has helped to instigate? Clearly, in this case, varied institutional or power structures of agency must be taken into consideration when exploring the process of change as distinct from the outcomes of human and environmental interaction. And in addition to these relational and power-pervasive environments, one is constantly negotiating the embodied realm of his/er consciousness, which individual memory helps structure. Therefore, one is not only a subject of the process of human interaction ('relational') within institutionalized power-pervasive environments ('institutional') but also a subject of ones' own awareness ('embodied') of routine acts, inefficiencies, desired norms and injustices.

The above three realms of 'embodied', 'institutional' and 'relational' agent interactivity constitute distinct groupings of social structures identified by John Scott (2001) in *Where is Social Structure?* (see Sec. 3.2 for discussion). Each of these groupings has been discussed in full detail below, drawing on respondent data from their respective dimension of change (outcomes, resource accessibility and agent-environment interactivity (see Sec. 4.4.1b for discussion; see also Annex A4.1). The discussion of each of these dimensions, which have been used to structure the qualitative studies of this investigation, have explored links between differing agents' perceptions of change and their responses to often uncertain industry circumstances over time. The first of the three dimensions of change (outcomes) has explored 'embodied' social structures through a discussion of agent 'mentalité' or cognitive-frames before proceeding to discuss the implications of 'institutional' and 'relational' social structures for resource accessibility and agent-environment (lifeworld-system) interactivity, respectively.

6.3.2a Outcomes: Perceptions of Change and 'Mentalité'

Interviewees largely have taken stock of the 'outcome' of increased delocalization and unemployment in their accounts of industry transformation. Their suggestions have ranged from mounting threats to the continued existence of footwear manufacturing in Portugal to opposing claims that have suggested a 'self-transformation' and 'renovation of the business fabric'. For some proponents of the latter, the undeniable loss of regular employment has been skirted. Though, both of these accounts have acknowledged improved work conditions and increased work flexibility, and the successful industrial development or restructuring of a handful of business enterprises amidst the backwardness of many others. Altogether, the industry shortcomings *and* achievements have been related to the degree of firms' openness or willingness to adapt to change. This agent 'mentalité' has corresponded directly to the

‘embodied’ structural factors or the first of three groupings of discussed social structures in this present category of ‘internal/necessary’ social relations of change – of which the remaining two sets of social structures (i.e., ‘institutional’ and ‘relational’) have been discussed in the subsequent and final subsections of this chapter.

Concomitant with the above effort to elaborate upon ‘embodied’ social structures as well as those of ‘institutional’ and ‘relational’ structures in subsequent sections, an equal effort has been made to understand each grouping of social structures in the context of their respective dimension of change: outcomes, resource accessibility and agent-environment interactivity dimensions of change, respectively. In fact, the above opening discussion on ‘embodied’ social structures or the outcomes dimension of change has been a particularly important dimension in consideration of this chapter’s attempt to explore the extent of probable links between agents’ differing perceptions of change and their interactivity. What has determined differing agent perceptions of change and why? Have these perceptions been legitimized and reproduced to suit context-specific ends?

The following section has explored answers to these questions by examining the presence of ‘embodied’ social structures and its corresponding dimension of change in the interchangeable nature of differing perceptions of industry threats, market uncertainty and self-imposed risks. Answers to these questions also have been pursued in subsequent discussions on ‘institutional’ (Sec. 6.3.2b) and ‘relational’ (Sec. 6.3.2c) social structures and their corresponding dimensions of change.

6.3.2a.1 ‘Natural Evolution’: Crisis and Survival

The relatively rapid process of transformation in the footwear industry partly has stemmed from the late industrialization of Portugal (see Chapter 5 for discussion). The result was one of rapid foreign direct investment-driven industry expansion and productivity growth in the late 1970s and 1980s, which soon was followed by the start of an incremental delocalization of production in the early- to mid-1990s. The process does not befit late international development theories of Fordist – post-Fordist transformation; the process of Portuguese footwear industry did not transition from a Fordist to a post-Fordist organization of production. Instead, the past twenty years have been witness to a rapid rise and gradual decline in the volume of footwear exports and production orders as a result of fluxes in FDI concomitant with a tardy response to the delocalization and divestment of multinationals by national manufacturers who largely provided subcontracted production services. That is, the footwear industry and its regions to the north of the country were products of post-Fordist transformation in industrialized regions elsewhere in Europe, namely British, French and German (see Chpts. 1 & 5 for discussion). Nevertheless, both the conurbations of SJdM, south

of Porto, and of Felgueiras[113] to the northeast have had a strong tradition in footwear manufacturing (see Chapter 5 for discussion). In a telephone interview with the President of SOICAL, Moreira asserts that the sector 'will not disappear [from Portugal] […] because it always has been a pioneer in footwear manufacturing' (F. Moreira 2007, pers. comm., 15 January).

However, the above view has not been sustained entirely by others in the industry. The Portuguese footwear industry has undergone rapid developmental shifts in production over a relatively short span of time as a consequence of the influx of FDI in the 1970s and 1980s, which has propelled the nation's process of industrialization albeit relatively delayed. The footwear industry has had to hastily accommodate increased demands for quality-certified footwear, which has forced the industry to shift to a much reduced albeit design-intensive form of production in as little a two decades. Interestingly, the import of advanced machinery and production 'know-how' from large-scale multi-nationals largely contributed to the initial rise in exports. Though, the national and industrial urgency to modernize the industry only commenced after the first indications of investment pullout in the mid to late-1990s; this late response has been credited, in part, to the steady flow of European funding after 1987. And whilst the numbers of recipient firms was significant in the first round of EU Structural Funds in Portugal (Community Support Framework 1988-1993), many firms' individual capacity to appropriate this funding to necessary business restructuring plans failed as enterprises maintained a 'business as usual' approach their industry practices rather than engaging in new product development and commercialization.

The early expansion of the industry that accompanied the surge of FDI in the 1970s and 1980s quickly underwent a drastic transformation as hundreds of experienced multinational in-house trainees established small and micro-enterprise operations in the immediate region. Unfortunately, the practices of many of these operations, including already established medium-sized operations, continued to manufacture footwear as subcontractors to larger enterprises in the region; this was the common practice of intra-regional production networks across the industry. But as major production orders from multinationals pulled out of the region a decade later, these networks became defunct and industry firms quickly were forced to have to re-adjust once again; though a strong technical knowledge of footwear production would not suffice this time around. Consequentially, many laggard footwear producers recently have been faced with the need to develop fashion brands and undertake marketing against a highly volatile and uncertain global fashion industry. Moreover, this scenario has left some wondering how much of a future remains for footwear manufacturing in Portugal and what will become of the region's specialized workforce. There does not appear to be any concern with the future state of the industry among other industry leaders – with the exception

[113] The Felgueiras conurbation was the principal region of industry expansion in the 1970s and 1980s.

of preoccupations over the maintenance of necessary support mechanisms to ensure the industry's 'natural evolution'. The Executive Director of APICCAPS, Alberto Jorge, offers his view of this hastened transformation process whilst highlighting the industry's technological and entrepreneurial accomplishments in response to these approaches:

> The determinant factors of the industry were the extroversion of the sector, its external focus, and, in light of that, its ability to create the conditions for competitive success. [I]t sought product evolution by moving toward greater value-added production for the mid- to up-market price bracket, quality management and the organizational reformulation of internal and external relations, introduction of new innovative technologies for enhanced productivity and flexibility under short-series production, and rapid client response. [Though] competition has intensified in a manner more fiercely as new producers and exporters worldwide have consolidated their market positions in recent years. And [the industry] has had to hasten its process of alteration and modernization. After the success of production, this has been accompanied by another qualitative change […] an increasing focus on questions of commerce and marketing; the actual focus is less one of production and evermore one of commercialization and marketing. The principal challenges at this moment are the demands for new skills, […] different from the past, a new strategic positioning of the industry as it has been done in the past (A. Jorge 2006, pers. comm., 09 February).

'Delocalization' in the above process of industry transformation has taken on both negative and positive connotations. It is initially associated with regional divestment by foreign multinationals. Though later the strategy becomes a necessary consideration for Portuguese enterprise albeit initially frowned upon by the industry that was still heavy with resentment over on-going foreign divestment. According to an interview with the Commercial Director of BASILIUS, Nuno Fernandes de Oliveira, 'delocalization' for Portuguese footwear producers was unnecessary 10-15 years ago. '[T]he industry was at its highpoint. [O]ne worked well in Portugal' (N. F. de Oliveira 2007, pers. comm., 12 January). Though BASILIUS, a family-owned medium-sized enterprise did make various attempts to delocalize production to Brazil, India and, with some measured success thereafter, Morocco. Attempts however were complicated by geographical distance, adaptation to foreign production practices and cultures, time differences and production quality assurance among other factors.

> Our efforts at delocalization were frowned upon […] but deep down I believe many felt it was necessary. It was necessary to find alternatives – cheaper ones, principally; the cost factor was substantial. It would have been essential for the survival of the firm had we been able to realize one of those projects. But we did not (ibid: 2006)

Unsurprisingly, therefore, it is clear why the commercialization of new product development, concomitant with a delocalization of labour intensive portions of production for hundreds of small and medium-sized family-owned enterprises, has been difficult to fathom. Yet, despite the difficulties of a long-established and a highly credible firm as BASILIUS has been to the industry, the Director of CFPIC, Eduardo Costa, insists that delocalization is a necessary change.

> It is foolish [when] a firm working in Portugal can produce for much less abroad and profit more producing in China. It is foolish. The owner is foolish […] because sooner or later he will be unable to sell […] and the business in Portugal will close. And if it were to close now, maybe, they [the workers] still have time [while still young] to seek other alternatives (E. Costa 2006, pers. comm., 06 February).

Whilst co-Partner/Commercial Director of BASILIUS, N. F. de Oliveira, who voluntarily closed the firm early in 2006, supports the view that 'delocalization' remains a positive venture for many firms, he argues that such ventures ought to be pursued jointly.

> [S]incerely, I believe all firms should consider delocalization. And they should consider this through association with other firms because it is a lot of work. Logistics and costs are greatly facilitated by [the association] of four or five firms (N. F. de Oliveira 2007, pers. comm., 12 January).

Though, when asked to comment on what the future may hold for the industry if firms were able to successfully restructure their businesses through 'delocalization' among other organizational changes, de Oliveira replies:

> What is the future? I continue to feel that the future is this: A short future. This [delocalization] is not a solution for anything; it is simply a solution that will delay an inevitable end [emphasis] (ibid: 2007).

The President of SOICAL, Fernanda Moreira, more optimistically argues that 'delocalization can be positive for the industry' provided, she claims, all aspects of production do not leave Portugal. Moreira believes that the future security of work in design, assembly, packaging and shipping will be maintained if the more labour intensive aspects of production successfully delocalize (F. Moreira 2007, pers. comm., 15 January).

As mentioned earlier, APICCAPS' Executive Director, Alberto Jorge, takes the totality of these observations to simply imply a 'natural evolution' of the industry.

> Many in the industry have moved upwards on the pyramid of competitive demand through self-transformation. Thus the number of firms with the capacity to accommodate this level of demand is fewer. And, as a result, we are experiencing a reduction in the number of firms. But there also is the existence of more competitive and larger firms, and, as one might call it, a renovation of the business fabric [emphasis]. We have fewer but better firms globally, which make use of available labour. This is why there are no serious social problems in the footwear industry, despite many firms having disappeared; their place was occupied by other new ones […] with existing others, in the meantime, having expanded and modernized. And this is the business fabric's capacity of auto-regeneration (A. Jorge 2006, pers. comm., 09 February).

APICCAPS' claims are echoed by its sister organization, CTCP, in an interview in 2006. For Candida Medon[114], Director of Innovation at CTCP, the influential weight of these interventions on overall industry transformation is uncertain. As she reflects:

> I am of the opinion that the industry directs us. And the world continues to evolve in its own way; we are confronted with this natural evolution everyday. It is difficult to say what the influence of this was, and what the influence of that was [for the process of industry transformation] (C. Medon 2006, pers. comm., 06 February).

Medon's reflection is reminiscent of the 'external/contingent' category of social relations of change discussed earlier. However, APICCAPS' understanding of this 'natural' process of industrial evolution or 'auto-regeneration' largely reflects the association's role as the leading voice of its industry members. The industry association's claim that social problems are nonexistent also may well reflect the fact that it is the leading organization for the international promotion of Portuguese footwear. The Portuguese National Chamber of Commerce Director

[114] Candida Medon has been responsible for new partnerships forged between regional universities and select industry firms, for industry training, and for new materials and technologies development at CTCP.

of Fashion Industry Commerce in Portugal, Elza Neto, whose first and foremost concern at ICEP is industry promotion, claims that APICCAPS 'has been a mobilizing organization [but] it does not represent to the totality of businesses in the industry' (E. Neto 2006, pers. comm., 08 February).

This uneven representation becomes particularly evident when APICCAPS claims that the evolutionary progression 'upwards on the pyramid of competitive demand through self-transformation' has not been associated with any 'serious social problems in the footwear industry, despite many firms having disappeared', because their place was filled by others. When asked to clarify on the absence of social problems at the interview, Alberto Jorge unflinchingly responded:

> There is no evidence […]. Where is the evidence of social problems in the footwear sector? Where are the manifestations? Where are the problems? There are none. There are none (A. Jorge 2006, pers. comm., 09 February).

This frame of mind, however, clearly has been oriented toward preserving the progress and continuation of industry transformation in the minds of individuals and organizations. When faced with a similar set questions, Manuel Freitas, President of the national labour union for textiles, clothing and footwear industries at FESETE, goes further to suggest that micro- and small-enterprise firms have been under-represented.

> When one recognizes that the majority of firms are very small and what it takes to build one, [one is left to question] what [funding] is made available [to the firm]!? It is commonly said that the labour unions represent relatively few workers. That is true; we represent fewer workers today than we have in the past. [B]ut they [APICCAPS] are much less representative of the industry than the labour unions (M. Freitas 2006, pers. comm., 07 February).

When asked to clarify FESETE's role in the representation of workers' interests, Freitas describes that a key factor behind the claims for and against the existence of social problems has been, in part, related to workers' unwillingness to express their discontent. As he puts it:

> On television, when they [news media] generalise, one generates an environment of fear! [I]n recent years, salaries have not accompanied the rate of inflation. [And] everyone speaks of crisis, in difficulties; they see firms leave. [But] if the workers do not fight and the industry association does not want to negotiate the situation becomes anybody's guess. The reason for this is exactly because, in a recession, between opting for a higher salary and losing the job tomorrow, they [the workers] prefer to maintain a low salary and have a job to return to the next day.
>
> [Thus] from a psychological point of view [of] the behaviour and attitudes of people, for us, in crisis, the hardship is two-fold: we have had to endure higher levels of unemployment and the inability to improve work conditions (ibid: 2007).

As discussed in the previous chapter, the unemployment clusters in the Portuguese Norte region have been most overt in traditionally predominant textile and footwear manufacturing areas such as Tamega (see Chapter 5, section 5.3.1a). President of SOICAL, Fernanda Moreira, undertook her new responsibilities as volunteer President in 2002 shortly after she was let go by her long term employer on the basis of redundancy. In an interview in 2007, Moreira, who was let go after twenty years of work with her previous employer, offers valuable insights into the hardships faced by women in the region. 'We [SOICAL] feel,'

Moreira alleges, ‘that when firms, not necessarily footwear, have the need for additional workers, they are not inclined to hire workers older than 35 years of age’. This is a worrying prospect as recent data confirms that the majority of unemployed are over 35 years of age and female (see Chapter 5). Moreira then takes this particular concern with the uncertain prospects for employment reintegration further and expresses SOICAL's reservations on the future rate of factory closures. Though, despite the uncertainty, she suspects it will persist to some measure. Moreover, Moreira’s above concerns are compounded by her observation of the lack of FDI in other industry sectors as well as her fear of the uncertain future potential of existing industry sectors in the region to absorb the current and future unemployed.

At the time of the interview (2007), Moreira, aged 37, was awaiting judicial review of a class action suit that claimed her former employer unjustly made several employees redundant shortly before hiring new workers. Unlike years past, this latest civic action is increasingly uncommon according to Moreira. One could argue this in favour of APICCAPS or FESETE as the absence of any ‘real’ social problems or the adverse effects of a cultured ‘environment of fear’, respectively. Though, neither the assertion that social problems are absent nor that they may be fewer or less noticeable because of an imposing ‘environment of fear’ is entirely wrong. Nevertheless, these assertions merely have been part and parcel to framed discourses by APICCAPS and FESETE, which have been structured on their organizational perceptions of industry transformation as well as efforts to preserve their interests and role in industrial reorganization or change.

There has been much diversity within the industry as far as its developmental paths are concerned; the seemingly less competitive micro- and small enterprise firms necessarily have not implied firm closure in due course. One only has to look at the much highly regarded BASILIUS that was forced to close despite having been a recipient of considerable EU/State funding and a well respected participant in industry-led projects for its technological expertise. In fact, earlier in the previous section, Director of Finance at EJECT, João Barbosa, refers to ‘irregularities’ in productivity among industry firms. This has suggested an industrial transformation scenario that has been inconsistent with APICCAPS’ account of industry. Therefore, unlike transformation as a *process* of ‘evolution[ary]’ change, the space of transformation has implied multiple paths of development and a concomitant share of social problems and business-related challenges with which the industry has had/will have to contend.

6.3.2a.2 ‘Mentalité’ and an Openness to ‘Change’

The current section has concentrated on the underlining ‘mentalité’ of perceived outcomes of industry transformation by firms, industry leaders and labour union activists. The use of this

notion of 'mentalité' has helped to explain agents' accounts of change as well to understand the extent of their openness or attitude toward necessary change. As the interview with the President of SOICAL in 2007 confirms:

> Effectively, they [firms] would need to put in place changes in the organization of work; they would need to make changes in terms of new technologies because I know factories that continue to practice today as they did thirty years ago. They would need to acknowledge ('*mentalizar*') that skills training is necessary and that they can gain from this (F. Moreira 2007, pers. comm., 15 January).

The extent of this problem has bordered on firms' willingness to co-operate. Production Manager, Manuel Grenha[115], of CONFORTO, a branch plant of ACO Group that was closed in early 2007 shortly following an interview with the firm in July 2006, claims that:

> [S]mall firms are in degeneration. [T]hey [the owners] want a firm for [personal] image […] but they do not have quality; they do not invest. And as far as inter-business relations are concerned, they are unable to enter [business networks/partnerships] where another already operates; there is still a great deal of distrust (M. Grenha 2006, pers. comm., 31 July).

But the most explicit use of this expression of 'mentalities in flux' has been that of Education Director, Paula Dantas, at the education training centre in Felgueiras (EPF). For EPF the determinant factors behind industry transformation has occurred at two levels: 'one [is] via [new] technologies – via technological evolution […] and the other via behavioural change [i.e., 'mentalidades', hereafter 'mentalité']'. Whilst an effort to determine the direct effect of vocational training among other contributing factors on behavioural change has been futile. Dantas has remained a firm advocate of EPF's role in regional development – particularly its contributions to behavioural change.

> It [behavioural change] is the key […] of a sustainable future [of the industry] – it [the sustainable future] depends on the mindsets of businesses and workers. It is necessary to change mindsets […] the way they live and work (P. Dantas 2006, pers. comm., 08 February).

In a previous personal communication with Dantas in 2005, she described how the level of young adult demoralization and the lack of encouragement youth receive at home have made it difficult to engage with this margin of society through continuing education. Compounded by the popular perception of traditional manufacturing industries in the region as low-paying, unfulfilling and precarious work, she claims, 'relatively low-skilled youths seek work elsewhere'. Thus the role that EPF consequently has sought to fulfil has been one of engagement as Dantas later describes in a recorded interview in 2006:

> I believe it has been in the area of skills training and in the changing of mindsets, instilling in the region and in the students seeds of change; change, in technical-professional preparation terms, which has been one of the greatest successes of the technical-professional schools (P. Dantas 2006, pers. comm., 08 Feb).

Needless to say, despite dissenting opinions of EPF's 'real' contribution to the industry, it has mustered enough will to host the regional industry's footwear fashion show, Descalço. Far from the Fashion Weeks of London, Paris and Warsaw, Descalço is a regional initiative in regional identity building and local entrepreneurial engagement. And in the face of the

[115] Manuel Grenha has over thirty years experience with the footwear industry in the region and abroad, having initially worked in micro- and small enterprise before joining ACO Group.

region's leading footwear trade show at MOCAP, Descalço has been perceived as 'insignificant' and 'unprofessional'. As the Portuguese fashion footwear editor of 'Par Unico', Victor Xavier, stated: it is 'fashion for the countryside; the folklore dancing was all that was missing!'[116] But only one year following this visit, MOCAP, the leading promotional device for APICCAPS and ICEP, was terminated due to the lack of international buyer interests and participation from individual footwear industry firms. But the continued support of local businesses has helped the Descalço event to endure the pull out of international buyers. In fact, it has continued to put up a fresh front to the low morale among business leaders and workers in the cities and towns hardest hit by economic stagnation and unemployment, offering young adults the opportunity to engage with the design and technical aspects of footwear production alongside local leading manufacturers.[117] On the back of this achievement, EPF continuously has sought to reinforce its view of the role of technical-professional schools in the region and their contribution to behavioural change. As Dantas (op. cit.) aptly puts it – when she suggests that EPF is a key institutional apparatus in behavioural change: 'society talks, but I believe that it is the school that speaks best'.

The last remaining aspect of this notion of 'embodied' social structures in the context of an outcomes dimension of change has highlighted the above claims by APICCAPS and CTCP on the evolutionary or 'natural' course of industry development. Unlike EPF, Director of Innovation at CTCP, Candida Medon, recognizes the positive flux of 'mentalité' that she uses to rhetorically describe the Portuguese footwear 'industry' when arguing 'that [the industry] does not stand around with its hands behind its back' (C. Medon 2006, pers. comm., 06 February). Though many industry firms' continued unwillingness or inability to accommodate on-going industry demands through 'innovativeness', as already mentioned in this chapter, forces Medon to look to minimize the risk associated with project innovation and meeting industry sector needs:

> We select, or, that is, we support, or we go to those [firms] that are more receptive, with a more dynamic profile and that we know are receptive to providing solutions (C. Medon 2006, pers. comm., 06 February).

CTCP has approached those dynamic firms who have been willing 'to assist, to interact, to question, […] that have products to develop, [to] innovate'; '[m]otivation', it claims, is always the [firm's] necessity' (ibid:). CTCP has taken this view in its effort to introduce products that benefit the whole of the industry. This point has been revisited in the final section of this chapter, offering additional insights into the agent-environment interactivity dimension of change and its relational social structures; suffice it to say that, despite the technology centre's seemingly limited success in encouraging technology transfer throughout the industry and

[116] Xavier was not interviewed for this project; the comment was made during an informal conversation at the MOCAP event on 17 March, 2005

[117] EJECT is among the participating firms and a long time participant of the show.

region, CTCP has been criticized with having produced ‘innovations’ for which there *is* no market (discussed further in the following section).

Having now closed the discussion on the ‘embodied’ social structures of agents’ accounts of transformation, the following two complementary chapter sections on the ‘institutional’ and ‘relational’ social structures of agents’ accounts have continued to elucidate the probable links between their perceptions of, and responses to change. More importantly, the following chapter sections have helped to determine whether agents’ accounts have been legitimized and reproduced to suit institutional interests in, and/or to sustain their influence over the process of industry transformation.

6.3.2b Industry-Regional Resource Accessibility: Knowledge Creation and Provision

In the above discussion, various industry support organizations’ institutional remit or responsibility to their members has been reflected in differing perceptions of change. This has been particularly clear in the accounts made by APICCAPS and the labour unions SOICAL/FESETE whose perceptions of change have represented the interests of their members. The following section revisits these different institutional remits or operational spheres and discusses interviewees’ accounts of the resources they mobilize within these jurisdictions in response to their perceptions of change. In other words, these resources and its accessibility have been a product of the functionally differentiated agent interactivity, within which context specific ‘knowledge’ / cognitive skills are developed and put into practice. Though, the following resource accessibility dimension of change more explicitly has entailed the (1) negotiation of collective bargaining agreements or labour relations, the (2) selectivity of financial incentives systems and its associated policies, and the (3) provision of training services. Secondly, the above three resources have involved multiple spheres of functionally differentiated interactivity. Altogether, this agent interactivity and its resource accessibility constitute differing institutional social structures. These ‘institutional’ social structures have become increasingly apparent in agents’ accounts of their institutional remit as well as in the accounts of agent interactivity across other spheres of interest. In other words, this section has taken agents’ account of ‘disjointed realities’ as the basis for discerning ‘institutional arrangements’ across the self-regulatory and representative space of agent interactivity in response to industry change.

The above multi-jurisdictional scenario is not structured on clearly defined boundaries or institutional lines of action within and between jurisdictions. Instead, it constitutes functionally differentiated spheres of interactivity that overlap or intersect, and share. Consider the latter of the three resources above: training resources in the Portuguese footwear industry are available across various operational spheres; these differing jurisdictions can facilitate a wider industry

response to firms' diverse needs, but their distinct remit also can encumber institutional collaboration across jurisdictions. Indeed in an interview with Paula Dantas, Director of Education at EPF, in 2006, she argues 'that the more like [training] institutions the better'. '[T]he needs are so vast; more is possibly better' (P. Dantas 2006, pers. comm., 08 February). But particular interviewee accounts of the contribution of training to industry transformation have suggested that cooperative institutional arrangements across jurisdictions have been discouraged as a result of 'disjointed realities' among training organizations. This has been compounded by the presence of institutional constraints on organizations operating in support of industry development, diminishing the likelihood of local industry needs representation. For instance, industry training provision has been kept from fully catering to local industry priorities because their organizational remit has been limited to generalized (or 'one size fits all') training priorities nationwide.

Thus the space of transformation has constituted a multi-jurisdictional environment of institutional complementarities and incompatibilities across self-regulatory and representative spaces of agent interactivity. This complex environment has been presented in the following discussion of interviewees' accounts of Portuguese footwear industry transformation and institutional change, which have involved the (1) negotiation of collective bargaining agreements or labour relations (Sec. 6.3.2b.1), the (2) selectivity of financial incentives systems and its associated policies (Sec. 6.3.2b.2), and the (3) provision of training resources (Sec. 6.3.2b.3).

6.3.2b.1 Collective Bargaining Agreements in an 'Environment of Fear'

'Clearly we must understand that this industry grows with the democracy of this country'. In an interview with the President of the national textiles, clothing and footwear labour union FESETE in 2006, Manuel Freitas was still awaiting the results of a long arduous negotiation process with APICCAPS following a major overhaul of national labour law in 2003. His above statement reflects the extent to which labour union intervention has been able to legally intervene in the interest of its union members once the state of democratic deliberation in Portugal became commonplace with the demise of the Estado Novo in 1974 (see Chapter 5 for discussion). Throughout the industry boom of the 1980s, FESETE and regional footwear labour unions such as SOICAL regularly campaigned for higher salaries and the betterment of workplace conditions. But, whilst the industry undoubtedly had gained a foothold in the global marketplace with the help of FDI, its economic growth was not reflected in salary increases despite labour union activism. Freitas argues that salaries remain too low. In anticipation of an agreement on three years of negotiations with APICCAPS, FESETE was hopeful he might be able to recuperate on the absence of annual salary adjustments since 2003. APICCAPS'

unwillingness to heed to these demands for higher salaries, Freitas describes, only illustrates their 'rigidity'. '[D]espite agreements with the association in other areas, I am doubtful I will succeed here'.

Director of Finance at EJECT echoes this view in an interview that same year, highlighting the fact that the Portuguese minimum wage is one-third of that of Spain. In fact, according to ILO Labour Force Survey data, hourly pay in the Portuguese footwear in 2004 was 2.98 EUR.[118] Generally, direct questions on employee salaries have been skirted by the industry firms interviewed for this investigation. Though, in an interview later that year (2006), Jorge Fernandes, co-Partner and Director of Finance at SAVANA, claims that salaries are reasonable at his firm. 'It is not a bad salary', Fernandes claims[119]; 'every year I increase salaries regardless of whether I have approval from APICCAPS or the labour unions'. By this time, new work categories, consistent with salary adjustments, had been published. The new work categories by State mandate were undoubtedly more reflective of current industry practices. However, agreed minimum salaries have remained lower than the rates currently desired by labour union advocates because they reflect an economic condition at the start of negotiations in 2003 - without any retroactive consideration of the time elapsed during the years of contractual stalemate between the industry association (APICCAPS) and the unions (FESETE) (cf. A6.1 and A6.2). In hindsight of the negotiation process, Manuel Freitas describes the relationship between FESETE and APICCAPS as 'informal' – part and parcel of a 'non-institutionalized virtual network'; this point will be revisited in subsequent passages.

The industry implications of the new labour regulations have had a mixed effect. Despite the increased flexibility of work hours, work schedules have remained highly regulated. Also, despite a more competitive merit-based system of job advancement between the newly established work categories, incentives to work have remained low due to attractive unemployment benefits when compared to industry pay in footwear. In effect, the mechanisms of employment and social policies have been counterproductive as Jorge Fernandes of SAVANA describes:

> My impression is that things are a lot more rigid since 2003; it is now necessary to train 10 percent of the workforce for 20-30 hours annually – CFPIC is now developing strategies in response to these measures (J. Fernandes 2006, pers. comm., 27 July).

Further to this observation, SAVANA has highlighted those reprimanded workers at his facility who have asked to be let go of their employment commitments to the factory.

> [Though] I believe that 50 percent of the unemployed do not want to work […] I think that the unemployment benefit is an incentive for this unwillingness to work', he added. '[When] we asked CFPIC for twenty workers [to operate a new production line] we received six – two of which had health problems; meanwhile there are unemployed out there (ibid: 2006)!

[118] The same survey highlighted significant gender differences with respect to monthly salaries estimated at an average of 684 and 477 EUR/month for male and female working populations, respectively (see Chapter 5 for discussion).
[119] SAVANA claims to pay more than the industry standard.

Other factors, contributing to the observed levels of unemployment in the region, have been associated with an overall overspecialized European workforce and workers' preference for unemployment benefit over the relocation to areas of available work. However, different household conditions (particularly in light of grave economic conditions) can motivate alternative behaviours. In fact, in an informal telephone communication (2007), the regional footwear labour union office in Guimarães described how several union workers elected to accept work in a neighbouring region over unemployment compensation that would have been pursued by the union officers. In light of weakening labour union influence and a growing scarcity of work, the union workers were faced with little choice after the manufacturer (undisclosed) closed its branch plant in Ponte de Lima and concentrated all national operations at its main production facility in Felgueiras as part of its wider global strategy. The workers succumbed to employer pressure tactics against union requests that they should join forces with the union and allow them to negotiate with the manufacturer on their behalf. According to the President of FESETE, Manuel Freitas, this has signalled workers' 'anti-labour union sentiment' in reaction to an 'environment of fear', which has hampered labour union activists' ability to represent workers interests in the region; at the time of the telephone communication, the union workers had chosen to carpool to Felgueiras.

Though, regardless of the reasons that have influenced footwear industry workers to pursue unemployment benefits over work or alternatively to compromise their household commitments for 'fear' of redundancy, Jorge Fernandes of SAVANA asserts that work conditions and flexibility have improved as a result of the State-mandated update of the collective bargaining agreement between APICCAPS and FESETE in 2006.

> [T]hings are much better now […] they [APICCAPS/FESETE] restructured the job classification categories. [And] now there is more competition between categories whereas progression to higher categories beforehand was based on seniority regardless of performance. [But] I think they could have gone further [referring to some aspects of work that remain unclassified] (Fernandes 2006, pers. comm., 27 July).

Nevertheless, these improved conditions have not been enough to attract outsiders. When asked about immigrants' interests in the industry, SAVANA replies:

> We had up to three CEE[120] workers at one point, two of which departed for work with restaurants in order to get the additional flexibility-permitting work at equal if not better pay. The footwear industry is not attractive to immigrants of Eastern Europe […] because they want to make money [and] they will work weekends if necessary. Today, the footwear sector is regulated. Firms work 40 hours and officially no more than that (ibid: 2006).[121]

Overall, the direct competition between incentives to work and unemployment benefit programmes, the improvements to workplace morale through performance-based worker classifications, and the industry's responsiveness to market volatility through increased flexibility all seem to suggest a mixed picture with regard to the betterment of the workplace,

[120] Central and Eastern European

[121] The new labour code (2003) allows industry to increase or lower production workloads up to 25 percent in either direction but firms cannot exceed 40 hours weekly

and industry flexibility and attractiveness. This may well be illustrative of the uneven affect of, or of the limited contribution of labour relations and State regulation to the process of industry transformation. In other words, with the exception of a negotiation of work categories and salary brackets, FESETE has had a small hand in a process that largely has been structured by the State through the introduction of its new labour code in 2003 and APICCAPS' unyielding power of negotiation.

6.3.2b.2 Financial Incentives Systems and Their Associated Policies

The selectivity of financial incentives systems and its associated policies offers another contextual example of the resources available to firms and industry support organizations. The following passages have described two identified aspects of this example in interviewees' accounts of industry transformation. The first entails the regulation of information. The second involves representing industry firm needs with the support of European Structural Funds (1988-93; 1994-99; 2000-06).

First, the regulation of information has been the result of industry support institutions' efforts to cater to, and to preserve their interests and role in industry reorganization as well as to promote the industry in general. These institutional efforts often have been articulated through data-rich promotional adverts, numerous university-commissioned studies of industry performance (both in terms of its institutional and business response to change), strategic plans, and avowing political dignitaries at special industry gatherings (i.e., innovation awards ceremonies, strategic plan launches) and business excursions. In fact, Elza Neto, Director of Fashion Industry Commerce at ICEP, describes how the Chamber caters to promising firms by forging relationships between them and potential buyers in an interview in 2006.

> Like the organizations [CTCP, APICCAPS and CFPIC] that regulate information in close proximity to firms, we are additionally seeking to support and encourage dialogue between buyers and firms, particularly those firms who have design and product quality (E. Neto 2006, pers. comm., 08 February)

In particular response to organizations' regulation of information in close proximity to firms, co-Partner and Director of Commerce for BASILIUS, Nuno Fernandes de Oliveira, describes that 'APICCAPS is a form of information-hub' in an interview in 2007. Though when asked how APICCAPS' information sources factored into the firm's day-to-day business needs, de Oliveira responds: 'I would not go there. They help a lot. But it is obvious that the industry would exist without that type of daily action'. When asked about APICCAPS's industry strategies, de Oliveira asserts: 'if we analyze particular necessities, certainly they are sufficient. [But] if we analyze the sector in general, I do not suppose they will be sufficient'.

The industry association's strategic plans are a concrete example of regulated information (Apiccaps 1996, [ca. 2000], 1994). These strategic plans have been representative of APICCAPS' interpretation of industry needs. According to a personal communication from the

Director of Innovation at CTCP, they have been drafted as (1) a mediating instrument between APICCAPS, the State and the industry, and seemingly (2) have been developed in close proximity to industry firms and other industry support organizations. These two points concerning industry strategies redirects the discussion back to BASILIUS' above comments on the 'particular necessities' of the industry. In an interview in 2007, Eduardo Costa, Executive Director of CFPIC, draws attention to the training centre's minimal involvement in drafting the industry strategies.

> The training centre is not involved in that process. The centre is a minor partner in all of this. APICCAPS' strategy [pause] is one of industry survival. It is one proposed to its businessmen, to its members […] you should distribute more, you should produce in small-series […] you have to find new markets (E. Costa 2006, pers. comm., 06 February).

Costa further points out:

> We need to train people [for different areas of commerce] […] APICCAPS is not concerned with this. Rather, APICCAPS is concerned with the strategic survival of the industry; that is, a macroeconomic strategy (ibid: 2006).

An important aspect of Costa's stance has been founded on CFPIC's and APICCAPS' mutual need to engage with firms through 'learning'. Though, whilst APICCAPS has presented itself as an economic institution, in the way of an easily accessible information resource for the industry and region, CFPIC has claimed that it is proactive and 'open' but not a 'container of 'knowledge''.

> [W]e are not better [than the firms]; we need to engage [with them]. We do not have the ability to influence a universe of firms, [but our intervention is one of] business behavioural influence [whereby] we want to influence […] to continue to influence firms […] through others. There are no formulas; we do not have the solution; all firms have their culture ['mentalité'] […] many times it does not have to do with technological backwardness, but a lack of [re]organization (ibid: 2006).

Moreover, like EPF, CFPIC also has identified the need to change firms' 'mentalité'; and like CFPIC, Director of Education at EPF, Paula Dantas has echoed how its information sources lie with the firms themselves; they, too, are not the 'containers of 'knowledge'': 'we utilize APICCAPS for some orientation […] but what drives us on a daily basis are the firms' (P. Dantas 2006, pers. comm., 08 February). Thus it has become increasingly clear that EPF, CFPIC, FESETE/SOICAL and APICCAPS/CTCP each have industry firms as their principal concern to the extent that their self-regulatory and representative actions are institutionally enabled. It also has become increasingly clear that each of the agents operates from distinct jurisdictions. And no one operational sphere has constituted the industry's space of transformation. In fact, the multiple jurisdictions, out of which EPF, CFPIC and other organizations proactively engage with industry firms, have been intertwined with agents' varying perceptions of change. Again, this has been addressed in the above discussion on 'embodied' social structures and will be discussed further in the subsequent section on 'relational' social structures.

However, the resources available to industry firms in the form of subsidies for modernization and training purposes has not rested, necessarily, with any particular sphere of

agent interactivity within the industry's space of transformation. But, as noted in the opening paragraph of this section, the representation of industry firm needs has been made possible through financial incentives. The criteria for the distribution of European Structural Funds have undergone significant changes over the course of twenty years of industry funding since 1988. These changes have been commensurate with improvements in State monitoring measures and a greater emphasis on identifying 'innovativeness' (see Chapter 2 for discussion) among industry firms. That is, the amount of funding has not been reduced drastically. Instead, the significant changes in the approach to State funding largely has impacted the number of recipients, resulting in fewer and more highly subsidized firms (see Sec. 5.2, Tbls. 5.1-5.3). It ought to be noted, however, that this change in direction has been partly driven by the national 'crack down' on industry firms' misuse of funding as well as efforts to identify industry excellence. On the one hand, industry funding carelessly has been allowed to personally benefit individual business owners as a result of fledgling national monitoring procedures (Correio da Manhã, 2004).[122] On the other hand, the change in direction also has been marked by the success of 'innovation' capacity building strategies as highlighted by Nuno Fernades de Oliveira of BASILIUS:

> [T]here is a bit of that [popular] notion that these projects are created to embezzle money [for aims other than those for which the firm initially proposed]. But I disagree. I believe that there is proof of that, but, once again, the water jet cutter […] and the automatic conveyor are excellent proof of funding well invested (N. Fernandes de Oliveira 2007, pers. comm., 12 January).

These marked cases of success, namely FACAP (1994-99), FATEC (2000-06) and SHOEMAT (2000-06) to which BASILIUS contributed, largely have been attributed to CTCP and Director of Innovation, Candida Medon. With the exception of SHOEMAT, which sought to develop and introduce new materials for footwear production,[123] the other industry programmes were part and parcel to APICCAPS' concerted techno-determinist reasoning of future industry needs. The projects were an exemplary achievement on the basis of their technological/engineering merit not to mention the praiseworthy capitalization of EU and State funds as well as the institutional ability to import technological knowledge into the region and adapt it to industry needs through the institutional know-how of the footwear industry's technology centre (CTCP) and other supporting technological research and development organizations in the region (i.e., INESC – spin-off of the University of Porto, and ICT firms CEI and MIND). In clarification of CTCP's contribution to industry transformation, Medon (2006) states that, in the 'logic of [industry] evolution and of taking the initiative to adapt [their] norms and [to] quickly integrate new competencies':

[122] This diversion of funding for personal benefit has included the modernization of production facilities incorporating the remodeling of business owners' adjacent home residence and the purchasing of luxury vehicles for 'business' use.

[123] The project also was justified on the basis of preparing for possible unforeseen risks associated with a sudden shortfall of leather stocks and/or a rapid increase in stock prices by introducing new alternative materials for production.

> The industry objectively needs reflexive functions […], taking technological innovation like those launched through FACAP and FATEC. But we are [she claims] at a new phase [of production demand] that is much more demanding at the small-series level – flexible footwear prototype production [and] new product development. What is our role, here? In anticipation of this [latest of industry demands], […] [our role], through technological audit, [is to] identify available technology and introduce it to the industry. We must find tools to give them (C. Medon 2006, pers. comm., 06 February).

> All intervention in this area is seen as a connection between industry, us and other organizations, namely the scientific community. Thus there is here a 'circle of necessities' that involves industry, CTC and other organizations in joint response to industry needs. The influence [for these programmes – FACAP/FATEC] is credited to the State organizations [and] the finance mechanisms that we seek […] for these necessities (ibid: 2006).

Moreover, the timing of project/programme intervention (i.e., lining up the 'needs' of the 'industry' with timely project outputs) has been of particular concern to Medon in light of CTCP's desire to respond to industry needs; this point will be revisited in Section 6.3.2c.2 of this chapter. Suffice it to say, despite CTCP's achievements, CFPIC's Executive Director, Eduardo Costa, heatedly suggests these 'achievements' have been in vain:

> In terms of the evolution of this [technology-led response to industry needs] […] we do not have market! […] whoever purchases machines, will purchase Italian brands, American brands (E. Costa 2006, pers. comm., 06 February)!

Costa partly has a point. But he has confused a fundamental difference between 'product' and 'organizational' innovation. The FACAP / FATEC programmes have not been centred on the purchase of 'machines'. Instead, the 'machines' have been introduced to the industry as technological products that have been adapted to industry needs through incremental innovation which has helped spur new forms of innovative activity (refer to Sec. 2.2.1 for discussion of 'innovation' concepts and 'innovativeness'). In the interview, nevertheless, Costa goes on to argue that 'in order to make a machine, it is necessary to research, to make prototypes'. Once again, contrary to Costa's assertions, the FACAP / FATEC were collaborative programmes that involved several organizations, including specialist research departments, IT consultants and select industry firms for pilot schemes and feedback. In fact, in an interview with BASILIUS in 2007, Nuno Fernandes de Oliveira refers to the footwear industry programmes of FATEC / SHOEMAT when he states:

> Every time there was some discussion, be it to determine [industry] needs or propose some project, BASILIUS was always one of the first to be contacted [by CTCP] on its list of institutions. For some time we were a technology demonstration floor (N. F. Oliveira 2007, pers. comm., 12 January).

Moreover, the role of industry firms in the development of programmes like FATEC has provided crucial feedback to project coordinators, including the ability to identify and address the inefficiencies of contracted partners. At the time of the CFPIC interview with Costa, the results of SHOEMAT were not published. But Costa relentlessly pursued his argument vehemently: 'how many materials have come about? How many? Tell me. How many? Give me one. One!' (E. Costa 2006, pers. comm., 06 February). Overall, the above rift between some industry organizations' perceptions of change and their consequential industry needs-based response apparently has mirrored these organizations' interests and role in industry

reorganization. Costa, in light of the industry training interests that he defends at CFPIC, has not been easily swayed by the claimed achievements of CTCP.

6.3.2b.3 'Politics' of Training Deficit and Provision

The following last example of resource accessibility is discussion in light of the politics of training deficit and provision. It has been a contentious and exemplary aspect of the above institutional rift, which arguably has characterized the multi-jurisdictional space of Portuguese footwear industry transformation. Training provision throughout the course of the footwear industry's transformation has been fragmented. The last remaining passages of this section on the 'institutional' social structures, identified in interviewees' accounts, will provide a description of the uneven provision of industry training across several functionally differentiated spheres of interactivity. First (1), with few exceptions, the industry's heightened attention to training only subsequently has followed efforts primarily aimed at the modernization of production processes through new technologies. Second (2), national training programmes and subsidies have been distributed unevenly across the range of footwear industry training organizations in the region because of their differing organizational remits and institutional priorities. Third (3), there has been a need to consider the lack of a coordinated approach between key policy sectors in education and economy, particularly in light of the distribution of, and access to resources made available through various State ministries. And, lastly (4), an emerging regional training services sector, which has found increased market share as a result of the introduction of mandatory training in 2003, also has begun to question the future training responsibilities of long-established footwear industry organizations like CFPIC.

> Training was strongly encouraged [through incentives] in the beginning. There were many programmes in the area of training and, after some time, it stopped. And technological solutions were more encouraged (N. F. Oliveira 2007, pers. comm., 12 January).

N. F. de Oliveira's perception of the industry's techno-centrist emphasis over training has not been an observation entirely of the affect or influence of EU/State funding mechanisms. Rather this emphasis also has been attributed to the emergence of APICCAPS' and CTCP's self-organization around the provision of technological solutions and their consequential influence on the industry accordingly. Suffice it to say industry funding during the second CSF (1994-1999) signalled a significantly marked increase from the previous one (1988-1993) in training investments; this was followed by a drastic decrease in the period from 2000 to 2006 to which de Oliveira referred (see Chapter 5.2 for discussion). And because of BASILIUS's close involvement with CTCP it is apparently understandable why this would have been particularly felt by de Oliveira. The extent of APICCAP's techno-centrist emphasis included measures for industry training through the footwear industry's flagship programmes

(FACAP/FATEC), which has led some industry leaders to question the industry association's strategic actions. Though, regardless of industry doubts concerning the association's techno-centrist response to industry needs over equal if not greater emphases on industry networking and commercialization, APICCAPS has maintained that all actions were executed in accordance with industry needs at the time (ibid: 2006).

Nevertheless, industry training provision via CFPIC (from 1965), CTCP (1990s)[124] and EPF (from 1991) has been an ongoing endeavour. It is important to first remind the reader of the emergence of each of these organizations before elaborating on their strategic orientations. Two out of the three organizations above were established through partnerships that included the footwear industry association. The third remaining organization is a unique local initiative. The first of the two APICCAPS partnerships is CFPIC, which was established in 1965 through a State-initiated partnership between the late footwear industry association or 'grêmio' (later re-instituted as APICCAPS), the late national federation of footwear operators[125] (later SOICAL) and the late State office of Work (later the Instituto de Emprego e Formação Profissional[126] – hereafter IEFP). In 1981, following the Carnation Revolution in 1974, CFPIC was re-instituted through the partnership of APICCAPS and IEFP of the Ministerio da Segurança Social e do Trabalho (hereafter MSST).[127] The partnership later took on SOICAL, the regional footwear labour union representative, in 1984. APICCAPS also contributed to the founding of the second training organization, CTCP. CTCP was established in 1986 through a partnership between APICCAPS, the State agency for SME support, IAPMEI, and the Instituto Nacional de Engenharia, Tecnologia e Inovaçao (INETI), incorporating the quality control laboratory previously established by APICCAPS in 1981. Finally, EPF, the last of the three training organizations, was founded by Felgueiras City Council in 1991; like CFPIC, EPF is accredited by the IEFP/MSST thereby requiring it to operate within State-defined parameters for educational instruction.

As noted above, CFPIC was first established as a formal training organization in the region in 1965 and subsequently expanded nationally during its peak in the late 1980s. The first training centre was founded in São João da Madeira (hereafter, SJdM) (Fig. 5.3), aiming to pull the industry out of predominantly micro-enterprise cobbler-styled production into larger and more highly-skilled and productive outfits. After opening another operation in the Entre Douro e Vouga region in 1967, its response to the rush of footwear FDI in the industrializing

[124] CTCP is a technology centre. It is not a training centre. CTCP has hosted several training seminars as a service to its members with the support of EU/State funds. Largely unlike CFPIC and EPF, albeit with some overlap and catered primarily to upper management, the CTCP offers sessions on marketing, production and IT management among others.

[125] The national federation of footwear operators, which was based in Sao João da Madeira (SJdM), was regionalized into three offices - SJdM, Porto and Guimaraes - and represented nationally by FESETE after 1974; the SJdM office is better known as SOICAL, and FESETE, and affiliate of CGTP, nationally represents footwear as well as clothing and textiles.

[126] Employment and Professional Training Institute

[127] Ministry of Work and Social Security

rural regions to the northeast in Tamega, Cavado and Ave in the 1970s and 1980s led to the opening of another three centres in 1972, 1985 and 1986. In 1986 alone, CFPIC opened two facilities; the second of these two training centres in the Oeste region north of Lisbon would constitute as the footwear training network's last, making it a total of six operational centres nationwide that year. Shortly thereafter, the multinational pull-out during the decade that followed would see many of the centres close, ultimately leaving behind the original centre in SJdM and that of Felgueiras. The great lengths to which CFPIC attempted to accommodate the rapid expansion of the industry is certainly commendable. But its inability to engage with firms in the industry, was, in part, due to (traditional) central planning approaches that largely relied on providing the physical infrastructure (i.e. training centres) without a concomitant approach for building relations with firms and other industry leaders in the region.

Candida Medon of CTCP, who worked with a multinational before assuming her role as Director of Innovation at the Centre, claims that CFPIC did not have the ability to accompany the footwear boom in the 1970s/80s because many multinationals adopted an internal 'learning-by-doing' approach to workforce training. These internal training practices often involved a production line, parallel to others in the factory, which was designated as the 'school'. She goes on to state that whilst labour-intensive workers learned this way, it was 'possibly one of the best training forms that helped to correct the sector'. But as a result, CTCP describes how the industry:

> [C]ontinued to create competencies to go on working without any theoretical underpinning […]. [W]ith or without training, owners/workers did not seek out additional skills; there was no investment in training because they 'learned' on a day-to-day basis (C. Medon 2006, pers. comm., 06 February).

In describing her reason for joining CTCP, Medon provides supporting insight on multinationals' 'footloose' operations in the region:

> The multinationals are awfully important from the point of view of 'learning', but at the time they were too hermetic. Therefore what happens externally does not matter [to them]; I felt as if I was becoming distanced from the sector (ibid: 2006).

When asked to comment on CFPIC's role in the process of industry transformation, recently State-nominated Executive Director (with consent from APICCAPS), Eduardo Costa, would not reply, stating that:

> I think we shouldn't limit ourselves to things of the past; the past has died and ended; I think I should preoccupy myself with the present. I must live the present and construct into the future and not live in the past. […] It is with this [footwear industry/regional/global] 'reality' with which I must live and with a future that I must construct according to this 'reality' (E. Costa 2006, pers. comm., 06 February).

Could this be indicative of a dark past better forgotten?

The footwear industry benefited from 72m € of EU/State funds according to the author's calculations on data obtained for all ERDF funding to footwear firms from 1988 to 2006 (see Sec. 5.2.1 for analysis/discussion). Though efforts to obtain ESF data that would have been directly distributed to CFPIC, CTCP and EPF were unsuccessful, despite concerted attempts

during the year from 2005 to 2006. Nevertheless the ERDF funding represents a majority share of the industry funding that was directed at footwear industry restructuring, which also included funds for training that would have been concomitantly supplied through ESF[128]. Moreover, much of this funding was directed at in-house training on individual industry firm premises and other training pursuits at CFPIC, CTCP and EPF. Unfortunately, whilst many firms made effective use of the funding, others' misguided attempts failed to coordinate training with the necessary reorganization of their firms; the picture is mixed and impossible to determine as the President of SOICAL suggests:

> [T]here were firms that received EU Structural funding for training purposes […], making certain it was appropriated to the needs of workers. But there were firms that did not. And therefore we have a bit of everything (F. Moreira 2007, pers. comm., 15 January).

Overall Moreira argues 'that much was invested in training, but it was not well applied' (ibid: 2006). N. F. de Oliveira reinforces Moreira's observation when he raises concern over 'the risk of training for training's sake' as a result of the new labour code introduced in 2002[129], emphasizing 'this is where the system fails' (ibid: 2007). In hindsight, one is left to wonder how mandatory training in fact will raise overall educational attainment and training in the industry. In other words, there are no mechanisms in place to ensure manufacturing operators will have access to lifelong learning opportunities.

All in all, this requires a nuanced look at the training organizations contributing to the 'system', namely CFPIC, CTCP and EPF. Though, as mentioned earlier, the position these organizations have maintained as resource accessibility of industry firms has not been one of a comprehensive whole as de Oliveira's reference to a 'system' might imply. In fact, no social 'system' is self-sufficient. That is, social systems may be self-organizing, complex and open, but they are not self-sustaining (see Chapter 2 for discussion). Thus de Oliveira's perception of a 'system' could well be a multi-jurisdictional space that has provided footwear industry training among other services. That is, a multi-jurisdictional space that is composed of several operational spheres within which CFPIC, CTCP and EPF each provide training services. Upon closing this section on 'institutional' social structures, the distinct individual 'realities' from which these service providers determine industry training needs can offer further insights into these organizations' 'operational jurisdictions'.

This has been most evident in the industry accounts by Paula Dantas, Director of Education at EPF, when she states in an interview in 2006: 'our reality [as a professional/vocational school] our limitations', referring to the resources (e.g. human resources) available to the school and the policies of the Ministry of Education that partly dictate EPF's strategic organizational outlook. That is, 'we cannot' she claims 'go beyond our

[128] Some ERDF funded programmes were accompanied by ESF funding. Direct funding from ESF programmes was not obtained for reasons beyond the control of the author (see Sec. 4.3.1a for further discussion).

[129] The new labour code requires all firms to train a minimum of 10 percent of their workforce for 20-30 hours annually.

juridical framework'. This is followed by what Dantas implies as the shared 'reality' of the region and the firms she and other serve. Dantas states, 'we are training a region and its businesses'; 'training of one region, one territory'. But 'despite the common training objective, we also diverge', as she aptly reckons:

> Although we are alike [are training organizations] we have [represent] different social groups; CTC does not work with youth who want professional/vocational training beyond an academic one. CTC trains upper management. CFPIC provides training in alternation; training caters to individual business needs. We provide training toward level III academic qualification[130] in addition to technical training (P. Dantas 2006, pers. comm., 08 February).

Therefore despite the complementarity or shared 'reality' of training a 'region', CTCP, CFPIC and EPF also diverge. Their incompatibilities are distinct. Dantas explains that the organizations make a considerable effort to avoid overlaps between their State funding applications, suggesting that the key impetus of coordination between them is largely interwoven with a 'subsidy culture'; 'despite our different missions, we see them [CTCP and CFPIC] as complementarity not competition; I see a lot of articulation [between us] of this sort but there needs to be more', she adds (ibid: 2006). Furthermore, both CFPIC's and EPF's responsibility to IEFP would make them the most compatible of the three organizations. But EPF's understanding of the absence of a 'continuous thread' in CFPIC's training programmes as a result of its ad-hoc response to firms' diverse needs, again, has reinforced the apparent lack of any regular or institutionalized collaboration between them (ibid: 2006).

A number of developments in footwear training provision have been noted in this chapter, namely emphases on techno-centrist reorganization of training, differing spheres of training activity, an implied need for coordinated economic and employment policies, and the emergence of numerous corporate-styled training services in the aftermath of State-enforced mandatory training in 2002. Among these developments there have been a host of issues, including the need to reconcile conflicting training priorities, and to provide generalized cross-industry training without relinquishing footwear industry-focused instruction such as footwear design, prototype production management and commercialization not to mention specialized manufacturing operations.

The poor communication between CFPIC and CTCP has been reinforced in an interview with Eduardo Costa of CFPIC in 2006. Costa emphasizes the apparent affect 'disjointed realities' has had on their willingness to collaborate when he states:

> [W]e must distinguish here two aspects of training referred to as initial training, what the technology centre [CTCP] does not provide. But we also have […] continuous training […] or life-long learning [which both centres effectively provide]. [And thus] there should be more coordination. There ought to be much more collaboration […] similar roles, on equal footing (E. Costa 2006, pers. comm., 06 February).

Costa's wish for 'more collaboration […] similar roles, on equal footing' is symbolic of both the apparent 'disjointed realities' as well as the firm belief that 'there is much work that can be

[130] Level III academic qualification demonstrates that the student has met all national requirements of primary schooling and is eligible for undergraduate studies.

done in partnership' between CFPIC and CTCP (ibid: 2006). This perception largely has been rooted in the view that CTCP 'belongs to the firms' because of its direct engagement with industry firms through training services, which have been catered to upper management as specialist technical training.

This view was expressed in an interview in 2007 by SOICAL President, Fernanda Moreira, in the follow up to a line of questioning concerning low educational attainment among industry workers (F. Moreira 2007, pers. comm., 15 January). Moreira's responses were particularly concerned with the current state of low educational attainment/training despite two decades of EU/State funding in this area. From a combination of direct experience with firms and hearsay, she suggests there has been a considerable degree of training for training sake; that is, she believes, CTCP, CFPIC and EPF simply have provided professional training on an ad hoc basis, failing to raise education/training attainment levels on an industry scale.

This institutional (systemic?) failure partly has been attributed to training organizations' inability and/or unwillingness to engage industry firms and overcome the crippling 'mentalité' of those firms reluctance to invest in training, and to contend with distinct institutionally-driven 'realities' within which they operate. The importance of engaging industry firms has been shared by CFPIC, CTCP and EPF, 'encompassing the need to better understand firms and learn with them' (CFPIC 2006) and ensuring 'a closer proximity to firms than to representative industry organizations' (EPF 2006). CFPIC's suggestion that there would be much to gain from a partnership with CTCP suggests that CFPIC would be able to complement CTCP's training focus while gaining greater access to industry firms

> Training would be a lot more beneficial, […] if it were given inside the firm in light of its culture, its practice. And we likely would be able to achieve professional training, to obtain gains that have not been possible until today (E. Costa 2006, pers. comm., 06 February).

Strangely, only moments prior to this statement, Costa contradicts himself when he claims he has 'no knowledge of CTCP's plan of activity', refusing to elaborate on the differences of their approaches to training and where a complementarity of approaches may lie. Though after some insistence, Costa gives in and suggests that the incompatibility or lack of dialogue between the organizations has been a historically embedded and institutionalized norm.

> There are actions in the sector that are worth presenting [making public], that is training plans. That is all. [T]he organizations [author assumes CTCP/CFPIC] ought to have a common training policy. That is all. [Pause] When two institutions are back to back for years [does not finish]. [T]oday we do not know each other; tomorrow we are better partners, provided there is something that strategically unites us. That is, this is a question of many years, a question of dialogue. So much so that there are contradictory sentiments between us; I have nothing against them over there (ibid: 2006).[131]

Therefore, respondent data has suggested that regular partnerships between CFPIC and CTCP are unlikely. Lest to say, CFPIC claims it is a 'much more proactive and open house', mentioning its current partnership with the University of Aveiro. The APICCAPS Executive

[131] The offices of Eduardo Costa and Candida Medon at CFPIC and CTCP, respectively, are located well within a kilometer of each other.

Director, Alberto Jorge, echoes the view that CFPIC and CTCP are unlikely to collaborate on training services to the industry, stating that the organization [CFPIC] is a 'much more rigid structure [than APICCAPS]' - but '[…] increasingly more able to respond to industry needs' as a result of its recent reorganization.[132] Second, in her response to the low educational attainment/training, Candida Medon, Director of Innovation at CTCP, claims that views of an insufficiently trained workforce are maintained by individuals or organizations outside the industry 'looking in' as opposed to those 'looking out [from within the industry]' (C. Medon 2006, pers. comm., 06 February). Medon further describes how current needs for technical specialists outweighed the needs for manufacturing operators after the industry gradually began to reorganize itself according to short-series production demands.

As already mentioned, Medon finds that CFPIC's role was diminished by the common practice of multinationals' pursuit of their individual training needs in-house ('learning-by-doing'), which was concomitant with the lack of regional firms' investment in training as well as in business foresight in the face of abundant work at the time. Though the contention apparently lies in what Medon describes as 'training without establishing a solid theoretical base for practice'. Costa's (CFPIC) response to this matter has reflected the nature of his Centre's trainees who traditionally have been manufacturing operators and more recently young adults seeking to complete their level III academic qualification in addition to obtaining specialized vocational training. He claims that:

> [T]heoretical lessons [are] completely abstract and removed from the reality of where they [the operators] work. [Nevertheless] we provide instruction on the theoretical foundation of work organization, for example, but it is very difficult to make someone [adult] with only five years of schooling understand. Training would be a lot more beneficial [to the worker] if it was given inside the firm (ibid: 2006).

Partly in defense of the Centre as well as in his express wish to make its future aspirations public, Eduardo Costa describes the organization's new role as one at the 'level of design':

> The training centre [CFPIC] has been a centre for manufacturing operators. Today, the centre is not at that level, but at the level of work organization and planning, at the level of design. We have tried to reorganize our training programme; train designers, stylists, train in the area of multimedia. Because as utopist as it may seem some footwear firms in order to survive may need to prepare their new design lines in multimedia. We want to be a reference for footwear design [training] (E. Costa 2006, pers. comm., 06 February).

Lastly, this apparent incompatibility between CFPIC and CTCP largely has been heightened by mixed industry firm perceptions of the role that CFPIC has (will) fulfilled. In a rather biting overview of the role of CTCP and CFPIC as resources to industry firms, João Barbosa, Director of Finance at EJECT, states that CFPIC 'can not be successful':

> Because who goes to the training centre [CFPIC]? It is the kids. And while the centre continues to cater its training to these young adults, it can never be successful; it [CFPIC] can not be a refuge for the completion of secondary education (J. Barbosa 2006, pers. comm., 27 July).

With respect to CTCP:

[132] APICCAPS sits on the Administrative Board of CFPIC.

> The technology centre has always been a good partner, […] in diagnostic terms. I believe CTCP has an important role in the industry. [But] maybe they have evolved, too, […] in terms of design, of new things [materials]. If they do not evolve in this respect, they will be of little use [to the industry]. They have to try to introduce new people to create partnerships with others - with other needs, with other organizations for training purposes. They must evolve in this respect; it is an extremely important step. It is important to give time to the evolution that we have in technological terms, as a result of their actions. But I believe [in the meantime] that they are able to evolve into these new areas (ibid: 2006).

In fact, Barbosa recognizes improvement in both CFPIC and CTCP measures, the least of which involves the creation of 'partnerships with others' and the establishment of new relationships. The following section on the agent-environment interactivity dimension of change has explored agent interactivity, namely elements of which can affect change across spheres of interest and influence as addressed in the subsequent discussion on 'relational' social structures.

6.3.2c Agent-environment Interactivity: Spheres of Interest and Influence

The following use of agent spheres of interest and influence as a heuristic adaptation of the above contextualized process of industry transformation offers a closing discussion on the manner and degree to which change has been identified and managed by various actors. This adaptation is partly built on the above discussions of 'embodied' and 'institutional' social structures underpinning the 'outcomes' and 'industry-regional resource accessibility' dimensions of change, respectively (see Secs. 6.3.2a/2b). It also is centred on the interrelationships between industry support organizations, and business needs and strategies. In doing so the following two sections illustrate how agents understand and manipulate their work environments in an effort to preserve their representative interests in, and self-regulating influence over the multi-jurisdictional space of industry transformation – notwithstanding their institutional constraints.

Lawton Smith (2003: 2) aptly has pointed out that the neglected features of agents' information, knowledge and cognitive skills becomes 'a question of the ways in which sources [resource endowments] of agency in particular contexts translate into power to affect or influence change through cooperation with others'. 'Agency as a process', she argues, 'relates to economic agents in relation to other agents and relevant institutions and social circumstances' and 'the potential of agents to manipulate the environment for context specific ends'. This process of agent interactivity concerns the two abovementioned groupings of the 'internal/necessary' social relations category, which has been defined and discussed as the 'embodied' and 'institutional' social structures of industry-regional transformation.

These two groupings of social structures respectively address the outcomes and the resource accessibility dimensions of change. The resource accessibility dimension of change, for instance, is a key aspect of the process of industry-regional transformation because it is

particularly concerned with the ‘sources of agency in particular contexts’. This resource accessibility is not limited necessarily to the institutionalized distribution of EU/State funding sources. Instead, to borrow from Lawton Smith (2003), this third and final grouping of social structures redirects attention to the neglected features of agents’ information, knowledge and cognitive skills. This is important with particular regard for what already has been discussed in the previous section as the multi-jurisdictional environment of training services (see Sec. 6.3.2b.3). In other words, the following section is centred on the influence of agents’ interest-driven potential to manipulate their environment (agent-environment interactivity) for ‘context specific ends’.

The following remaining passages of this chapter will discuss two specific examples of what constitutes the third and last grouping of the ‘internal/necessary’ social relations category (‘relational’ social structures) for this investigation. As in the previous discussions on ‘embodied’ and ‘institutional’ social structures in Sections 6.3.2a and 6.3.2b respectively, the remainder of this chapter will continue to explore the probable links between agents’ perceptions of change and the development and practice of their knowledge of it. These relational environments fall into two groups: spheres of interest and spheres of influence. Furthermore, the above two heuristic mechanisms do not imply closed groups or mutually exclusive networked environments. Instead, they are mutually reinforcing as the following two examples will illustrate.

6.3.2c.1 Spheres of Interest

I will begin the discussion on the first of these two relational environments by highlighting the degree of uncertainty surrounding collaborations between footwear firms and industry organizations, and the consequential implications for trust and credibility in this context as identified by the Director of Innovation at CTCP, Candida Medon. This discussion is particularly useful given the accompanying agent views on the degree of industry association and its socioeconomic impetus. The following discussion also is a particularly fitting approach to decoupling the interrelated affects of financial incentives systems and a more open industry or ‘mentalité’ in the wider context of greater functional proximity and 'learning' between industry institutions and businesses as well as the longevity of established relationships in the process. Moreover it offers further insights into the ‘relational’ social structures or the agent-environment interactivity dimension of change, and the degree of interrelatedness between collaborating firms and industry organizations like CTCP.

> [I]t is, here, that the circle of necessities, which involves the industry, CTCP as well as other competent scientific and technical organizations, can meet our [industry] needs (C. Medon 2006, pers. comm., 06 February).

The above statement from the Director of Innovation at CTCP, Candida Medon, resonates with the theories of 'innovation systems' (see Sec. 2.3 for full discussion). This 'circle of necessities', though, does not have 'innovation' as its objective necessarily. Rather, CTCP places the identification of, and response to footwear industry needs at the forefront of its agenda for which innovative solutions consequently have been required (product/organizational) of firms; for example, firm modernization and new technologies have been among the industry needs identified in the above mentioned projects of FACAP / FATEC. Nevertheless, CTCP tactically has aimed to forge and maintain a relationship with the industry as 'innovation' partner – notwithstanding its strategic techno-centrist ethos in the wake of industry de-localization during the early to mid-1990s process of late-modernization.

Among these firms are EJECT and BASILIUS. co-Partner and Commercial Director for the latter, Nuno Fernandes de Oliveira, was a second generation footwear producer whose father began producing before the Carnation Revolution in 1974. The late Fernandes de Oliveira began with a modest operation, personally delivering his product door-to-door to unassuming clientele. De Oliveira (Sr.) eventually worked his way to President of the footwear industry association after which the business was handed over to his university educated son Nuno (and son-in-law), during which the firm could be said to have been undergoing its peak. This stage in the firm's development (before its official closure in 2005) coincided with the influx of European structural funds through which Nuno de Oliveira was able to capitalize on his university qualifications as an engineer and gradually gain the admiration, and ultimately the 'credibility' and 'trust' of CTCP in collaborative projects (namely FATEC/SHOEMAT) and consultation. Nuno Fernandes de Oliveira recollects this particular stage in the firm's development when he states that:

> [E]very time there was some discussion, be it to determine [industry] needs or propose some project, BASILIUS was always one of the first [firms] to be contacted [by CTCP] on its list of institutions. For some time we were a technology showroom. Therefore every time there was anything new they [CTCP] would come speak to us first (N. F. Oliveira 2007, pers. comm., 12 January).

As mentioned earlier, CTCP and other industry support organizations like the industry training organizations EPF and CFPIC recognize the limits of the 'knowledge' they possess about the industry. In response to 'calculated risk' approaches to the select internationalization of its production in the past, BASILIUS claims that organizations like CTCP

> […] understand risks after they enter [joint] projects. At the institutional level, I believe that there is a lot that passes [them] by […] because their [CTCP or APICCAPS] day to day is different. The day to day operations at CTCP or APICCAPS are not as practical as ours. Therefore, I say, [pause] it is different. It is not better or worse, note, it is different. There [at CTCP/APICCAPS] the question of industry risk is not easily comprehensible for them (ibid: 2007).

In recognition of this limitation, CTCP, like other industry support organizations, seeks additional resources through collaboration with industry firms. But a firms' willingness to cooperate is often not easily come by. Though, to the contrary, BASILIUS and other select

firms have provided a great deal of industry insight into wide-ranging industry needs and new technology product development. That is, a two-fold relational 'proximity' (see Sec. 3.2; Boschma, 2005) between BASILIUS and CTCP. In other words, this organizational relationship can be credited to 'cognitive' and 'institutional' dynamics between BASILIUS co-Partner and Commercial Director, Nuno Fernandes, and Candida Medon of CTCP. In the first instance, there was a 'cognitive' proximity largely credited to their similar training background in mechanical engineering.

> We closely would exchange opinions with CTCP; and I believe that when there was a new project or if they needed to clarify any doubt in more practical terms they would come to us. Now maybe we influenced some things. But I do not believe it was credited to our firm in particular. It was possibly due to our help in identifying some industry necessity. And because it was an industry need, it was pursued as such not because it was the need of a particular firm (N. F. Oliveira 2007, pers. comm., 12 January).

Secondly, there was often a wider acceptance and recognition of BASILIUS due to its indirect relationship with the footwear trade association and parent institution of CTCP (APICCAPS); that is, an 'institutional proximity' (Boschma 2005).

> The staff of APICCAPS knew my father […] [A]nd therefore there was a different proximity [different from that with other industry firms] (emphasis). When anyone from BASILIUS would telephone [APICCAPS], they would associate them with my father. Possibly, our inquiries had preferential treatment. [Though] I did not provide any special favours [to APICCAPS] as a result of this more proximate relationship […] In fact I once, or twice, refused the invitation to have the firm included in the minister's tour of the industry (ibid:, 2007).

As Boschma (2005: 63-4) argues, 'cognitive proximity' can facilitate a 'learning' process through enhanced interactive learning which requires the exchange of dissimilar and complementary bodies of 'knowledge'. Though, too much 'cognitive proximity' can be detrimental to learning and innovation, and effective communication. To borrow from Boschma, 'cognitve proximity may easily lead to cognitive lock-in, in a sense that routines within an organization (or in an inter-organizational framework) obscure the view on new technologies and new market possibilities […] it may be difficult to unlearn habits or routines that have been successful in the past, but which have become redundant over time'. The same goes for 'institutional proximity' (i.e. an inter-organizational framework) where Boschma (2005: 68) similarly argues that 'too much institutional proximity is unfavourable for new ideas and innovation due to institutional lock-in (obstructing awareness of new possibilities) and inertia (impeding the required institutional readjustments)'. Though, too little institutional proximity and the potential for collective action is weakened. The threat of both cognitive and institutional lock-ins between CTCP and select firms like BASILIUS is apparent in the following statement by EJECT Finance Director, Joao Barbosa, when he states that

> [I]f they [CTCP] do not evolve, they are spoken of less. They have to place people there to engender partnerships with others, with other needs […] with other training organizations […] because they have to evolve in this way […] it is an extremely important step […] the evolution that we have in terms of technology […] as a result of their actions, must be given time [to mature and develop]. Nevertheless, I believe they can evolve into this other area [of new partnerships [with other firms and industry organizations] (J. Barbosa 2006, pers. comm., 27 July)

However, alongside this one extreme of potential cognitive and institutional lock-ins is the understandable occurrence of cognitive and institutional distance, for which the explanations can be organizationally bounded as discussed in the abovementioned industry perceptions of change or 'mentalité' (embodied social structures), or can be operationally[133] bounded as in the interviewee references to 'disjointed realities' that surface as a result of institutional incompatibility across self-regulatory and representative demarcations of industry-regional transformation.[134] The co-presence of both 'proximity' phenomena (i.e., 'lock-in' and distance) is evidenced in the following statements that suggest a general lack of associative behaviour.

> [T]he Portuguese ['mentalité'] do not function well in association. Our culture does not go there […] we have the habit of being more individualists and less associative (J. Fernandes 2006, pers. comm., 27 July).

> We utilize APICCAPS for some orientation […] but with respect to our day to day affairs the connections are more direct […] we go directly to the firms themselves [which] has more to do with a regional decision-making process, possibly not [pause] the best form of associational relations […] it is easier to go directly to the business owner than via APICCAPS or some other industry representative […] Thus here, for that matter, 'association' is not a strength of the region (emphasis)(P. Dantas 2006, pers. comm., 08 February).

Therefore the co-presence of the above suggested lack of associative behaviour in the footwear industry, and of loyal relationships between particular firms and industry support organizations possibly could be, in part, the unintended consequence of cognitive and institutional 'lock-ins'. Though, as noted earlier, this co-presence also needs to be considered in light of 'embodied'[135] and 'institutional'[136] structural factors. The explanations associated with the former suggest a degree of openness to change (i.e. willingness or ability to adapt) or agents' 'mentalité' (see Sec. 6.3.2a.2 for further discussion). In fact, the examples of industry 'mentalité' touch upon associated issues of industry training and a general 'environment of fear' (Freitas 2006) for which explanations have been discussed on the basis of their connection to agents' perceptions of industry change.

Lastly, the above suggested consideration of institutional factors behind the perceived co-presence of a lack of associative behaviour and loyal relationships may be contemplated on the basis of functionally differentiated spheres of interactivity. Section 6.3.2b goes to some length to delineate the institutional factors responsible for these jurisdictions or spheres of interest and the mechanisms by which they are reproduced. The use of spheres of interest as a heuristic device in this context thereby offers unique insight into possible interrelationships between industry and business strategies. A more conceptually palpable understanding of the extent of 'cognitive' and 'institutional' proximity also becomes apparent through observation of these

[133] By 'operationally bounded', it is suggested that agents behaviour or actions are either bounded institutionally by informal (cultural norms or instituted routine practices) or formal (legally-bound rules or regulations) institutions.
[134] See Sections 7.4.2 and 7.3.1 for organizationally and operationally bounded perceptions of change respectively.
[135] Refer to Section 6.3.2a for discussion of outcomes dimension of 'change
[136] Refer to Section 6.3.2b for discussion of resource accessibility dimension of change

interactions between organizations in a multi-jurisdictional environment - particularly with regard to organizational trust and credibility.

The footwear industry possesses an understated degree of distrust as might be expected in a seasonal fashion and design-based industry. In fact, ACO branch-plant Production Manager in Portugal and abroad, Manuel Grenha, verifies this field observation, alongside several other informal suggestions of the same view, when he reflects on his lifelong contribution to the fashion industries (footwear and textiles) and states '[t]here is still a lot of distrust among industry leaders; I have that peculiar instinct' (M. Grenha, pers. comm., 31 July). This view is partly reflected in the following statement by SAVANA co-Partner/Director of Finance, Jorge Fernandes, concerning the conditional viability of joint-commercial ventures among industry firms due to potentially strong conflicts-of-interest under third-party mediation by APICCAPS/CTCP: 'I have doubts that the purchasing associations would work unless they are independent bodies held accountable by strict guidelines' (J. Fernandes 2006, pers. comm., 27 July). Again, this particular view echoes similar concerns by EJECT Director of Finance, Joao Barbosa, when he reflects on the strong 'institutional' proximity between select industry firms and industry support organizations like CTCP, arguing that they [CTCP] must engender 'partnerships with others, with other needs'.

And whilst this co-presence of absent associative behaviour and loyal relationships between particular firms and industry support organizations can be characterized by self-regulatory spheres of interest on the basis of varying operationally bounded degrees of trust and credibility between organizations in the industry, these 'circles' are not closed. In other words, these circles or functionally differentiated spheres of interactivity are evident in the self-regulatory as well as the task representative practices within the space of industry-regional transformation. Take, for instance, the above discussed relations between FESETE/APICCAPS (Sec. 6.3.2) and CFPIC/CTCP (Sec. 6.3.2). The following statement by the FESETE President, Manuel Freitas, gives some indication of the nature of interaction between these functionally differentiated spheres of operation when he states:

> I believe, there, the problem could be stated differently […] because […] we could say […] the work [on industry reorganization], in partnership between the industry association [APICCAPS], firms, technology centre [CTCP] and training centre [CFPIC], […] is accomplished via non-institutionalized virtual networks (M. Freitas 2006, pers. comm., 07 February).
>
> The [virtual] networks here [in the industry] work without being institutionalized (emphasis). They work on that objective [as virtual non-institutionalized networks] (emphasis) (ibid: 2006, cf. also Cooke 2005; de la Mothe; Amin 2001; Sec. 3.3.1).
>
> When we work on that project EQUAL ['Novas Rumos'], it is institutional; it is a partnership. When we correspond with our contact at APICCAPS […] [via] many informal discussions and meetings […] it is virtual […] it does not have to do with [physical] proximity; rather in terms of proximity we are speaking of institutional [proximity], politics of social proximity (ibid: 2006)

Exactly where organizations like FESETE/APICCAPS and CFPIC/CTCP lie with respect to their 'cognitive' and 'institutional' proximity is a moot point. That is Freitas' use of 'virtual

non-institutionalized networks' to describe the inter-organizational relations between FESETE and APICCAPS among others seems to suggest an optimal position between detrimental relational states of 'too much' and 'too little' 'institutional' or 'cognitive' proximity (Boschma 2005). In other words, the inter-organizational relations are not entrenched necessarily in institutional norms or routines.

Furthermore, and in closing, this degree of trust and credibility also takes on a certain degree of loyalty within and between industry actors. An obvious example of this extension of the notion of trust and credibility can be identified in the above discussed fallout of an 'environment of fear' (Sec. 6.3.2a.1), which FESETE aptly attributes to 'anti-labour union sentiment' or a growing disloyalty of the labour union cause. In strictly more economical terms, this degree of loyalty also is manifest in the establishment of partnerships with suppliers/partnership dynamics; when asked to comment on his experience of SHOEMAT BASILIUS co-Partner/Commercial Director, Nuno Fernandes de Oliveira, claims:

> [T]he notion [of 'trust'] is precisely the same as a trip to the shop to purchase a particular item [whereby] you go to the shop and you trust; there has to be a relation of trust from the outset otherwise it does not work; a trust-based relationship [between you and the shopkeeper] in order for you to believe the organization is doing its best to serve you (N. F. Oliveira 2007, pers. comm., 12 January).

This offers a fitting insight into the wider context of organizational innovation, timely delivery on industry needs, project management, forging lasting relationships and State funding restrictions for which CTCP Director of Innovation, Candida Medon, argues:

> [C]redibility is only possible with work that is visible. When we [CTCP] want to have credibility in the industry, we need to demonstrate our services have met industry needs; [and] [t]rust is connected to credibility (C. Medon 2006, pers. comm., 06 February).
>
> [A]nd, therefore, we […] sometimes are forced to have to limit ourselves to those who already have credibility (ibid: 2006).

When Medon is asked to expand this view with respect to its regulation of information resources and subsequent changes in organizational relations, she replies:

> A [m]ore open [industry]. [A]s we spoke earlier on credibility, of the trust we have, and [of the trust] we have had to create with industry firms and their administrations […] we also have had to create that credibility with other institutions (ibid: 2006).

This recalls Medon's earlier reference to the 'circle of necessities' through which industry needs are addressed. For CTCP these 'circles' include firms like BASILIUS with whom the technology centre possesses a degree of 'institutional' and 'cognitive' proximity. However it becomes increasingly evident that this agent-environment interactivity example, manifest through institutional arrangements on the basis of 'institutional' and 'cognitive' proximity, is among several self-regulatory spheres of interest throughout the space of industry-regional transformation.

The following section turns to the second of the two heuristic models of agent interactivity identified in this investigation. It explains how interviewee respondent data can suggest their knowledge of change has been employed to legitimize their interests in, and/or to sustain their

organizational influence over the multi-jurisdictional environment of Portuguese footwear industry transformation and institutional change.

6.3.2c.2 Spheres of Influence

The readily observed identification of change by agents for the purpose of legitimizing their role in the process of industry reorganization is first apparent in Chapter 5 (Sec. 5.3.2), which highlights the shifts in, or the breaks and continuities of agents' common understanding of industry-regional transformation. As such, agents' knowledge is identified as both material ('coded') and discursive ('tacit') in the way of published documents and general discourse or industry 'buzz', respectively.

These material and discursive communications are particularly significant for their reflection of State rhetoric as well for their political influence over business and public agency. The footwear industry associations' (APICCAPS) industrial strategies are among the prime examples already discussed in Chapter 5 as well as in the present chapter. In the latter, the process by which APICCAPS has strategically sought to identify and communicate industry needs has been referred to as the 'regulation of information'. Though, despite industry firms' acknowledgement of the association's role as a 'form of information-hub' and their ['institutional'] 'proximity to the State', it also is suggested that the identified needs are not 'sufficient' (Sec. 6.3.2b.2). Among the industry reservations are claims by Executive Director of CFPIC, Eduardo Costa, concerning the industry association's (APICCAPS) techno-centrist emphasis, which has been embodied in its flagship industry development programmes FACAP/FATEC (Section 6.3.3b.3):

> We need to train people [for different areas of commerce] […] APICCAPS is not concerned with this. Rather, APICCAPS is concerned with the strategic survival of the industry; that is, a macroeconomic strategy (E. Costa 2006, pers. comm., 06 February).

Though, to be able to concretely suggest, here, that APICCAPS has had an upper hand in the strategic manipulation of 'knowledge' resources (both material and discursive) for 'context specific ends' would be misleading. Not only is it apparent that all discussed industry support organizations make a concerted effort to carry out their institutional remit, they recognize the limits of their institutional 'influence' over industry. In fact, as Director of Innovation at CTCP aptly puts it:

> I am of the opinion that the industry directs us. And the world continues to evolve in its own way; we are confronted with this natural evolution everyday. It is difficult to say what the influence of this was, and what the influence of that was [for the process of industry transformation] (C. Medon 2006, pers. comm., 06 February).

Surely this macro-industrial view of change skirts much of the diversity or 'irregularities' (Barbosa 2006) discussed up to now. Medon's ideologically bounded perception of change as a process of 'natural evolution' is centred on industry growth. Suffice to say, the complex social

relations of change, both 'external/contingent' and 'internal/necessary', which contribute to footwear firm closures and its consequential effects, are accepted as the contingent and necessary consequences of industrial transformation and development. Nevertheless it becomes increasingly apparent how the operationalization of CTCP and other industry support organizations' institutional remits take place within functionally differentiated spheres of interactivity, which can be driven by ideologically and market bounded world views ('embodied' social structures – outcomes dimension of change) that gain predominance over other industry and regional organizations as a result of different and often unequal powers and resources ('institutional' social structures – resource accessibility dimension of change). In other words, according to the respondent data discussed in this chapter thus far, agents' interpretations of change are partly determined by the 'internal/necessary' social relations within self-regulated spheres of interest (operationally bounded perceptions) and by the 'external/contingent' relations within task representative spheres of influence (ideological/market, organizational bounded perceptions.

The affects of agents' operational and ideological/market bounded perceptions of change on the former has been most apparent in organizations' mutual efforts to engage with industry firms needs and the challenges they encounter when doing so. The examples have included the notions of 'environment of fear' and 'mentalité' or openness to change (see Secs. 6.3.2a.1/2 for discussion). They also have implied challenges associated with 'disjointed realities'. In other words, the distinct 'realities' of various agents' actions in response to change, or their provision of resources for that purpose, is understood as the basis of differing institutional arrangements across self-regulatory spheres of interest and task representative spheres of influence within a seemingly multi-jurisdictional space of transformation' (see Sec. 6.3.2b).

Upon returning to the above note on 'regulation of information', consider Eduardo Costa's claim that CFPIC's engagement of industry firms and needs does not assume the Centre is a 'knowledge container'. As he claims:

> [W]e are not better [than the firms]; we need to engage [with them]. We do not have the ability to influence a universe of firms, [but our intervention is one of] business behavioural influence [whereby] we want to influence […] to continue to influence firms […] through others. There are no formulas; we do not have the solution; all firms have their culture ['mentalité'] (E. Costa 2006, pers. comm., 06 February)

Like CFPIC, Director of Education at EPF, Paula Dantas echoes how its information sources lie with the firms themselves; they are not the 'containers of 'knowledge'': 'we utilize APICCAPS for some orientation […] but what drives us on a daily basis are the firms'. This common understanding is reinforced by the Director of Fashion Industry Commerce at ICEP, Elza Neto, who claims:

> Like the organizations [CTCP, APICCAPS and CFPIC] that regulate information in close proximity to firms, we are additionally seeking to support and encourage dialogue between buyers and firms, particularly those firms who have design and product quality (E. Neto 2006, pers. comm., 08 February)

This seemingly customary engagement of firms' needs is reflected in particular agent 'realities' as their response to industry needs is partly conditioned by their institutional remit. This is evident in agents' different approaches to training provision, for example. Whilst training organizations recognize that they are not 'containers of knowledge'', their institutional remits indirectly determine what firms they are most likely to support. The abovementioned notion of 'disjointed realities' by Paula Dantas of EPF reflects these differing institutional arrangements across self-regulatory and representative spaces of interactivity. 'We are training a region and its businesses', Dantas explains; 'training of one region, one territory'. But 'despite the common training objective, we also diverge', as she reckons:

> Although we are alike [are training organizations] we have [represent] different social groups; CTC does not work with youth who want professional/vocational training beyond an academic one. CTC trains upper management. CFPIC provides training in alternation; training caters to individual business needs. We provide training toward level III academic qualification[137] in addition to technical training (P. Dantas 2006, pers. comm., 08 February).

These representative demarcations within the space of industry-regional transformation have had significant implications for the extent of interaction between the different training organizations. The examples already discussed have included Dantas' efforts to coordinate applications for EU/State funding with CFPIC and CTCP by which she claims their [training] missions albeit different are 'complementary not competitive'. Though, Dantas argues that there needs to be more of this sort of articulation. The implications of the 'disjointed realities' between organizations also result in the poor communication between CTCP and CFPIC, which are the two most notably distinct industry support organizations albeit joined by the industry association's (APICCAPS) hand in their establishment and organizational operations.

This observation is particularly evident when the Executive Director of CFPIC, Eduardo Costa, claims that he has 'no knowledge of CTCP's plan of activity'. In fact, upon suggesting the need for a 'common training policy' it immediately becomes apparent that the poor communication or the incompatibility between the two organizations is a historically embedded and institutionalized norm as he claims that the 'two institutions [CFPIC and CTCP]' have been 'back to back for years' (see Sec. 6.3.2b.3 for extended discussion). Although, there is seemingly no ill feeling between the two organizations when he [CFPIC] states that 'today we do not know each other; tomorrow we are better partners, provided there is something that strategically unites us'. This is particularly significant when Costa argues that 'there ought to be much more collaboration […] similar roles, on equal footing'.

The above statements by Eduardo Costa, especially his claim that there needs to be 'similar roles, on equal footing', highlights both the challenges faced by industry support organizations when having to conjure stronger relations with industry firms by identifying institutional complementarities (spheres of interest), and once identified the consequential

[137] Level III academic qualification demonstrates that the student has met all national requirements of primary schooling and is eligible for undergraduate studies.

enaction or operationalization of new arenas from which to engage or influence firms (spheres of influence). The former, which has been discussed fully in the previous section, highlights the importance of industry support organizations' ability to demonstrate their useful contribution to industry firms' needs through 'trust'- and 'credibility'-based relations. The latter partly addresses the above discussion on 'regulation of information', on the production and communication of 'knowledge' of industry and regional concerns/needs. In other words, whilst the former provides insight into the institutional complementarity and incompatibility of agent interaction between organizations (spheres of interest), the latter is centred on industry-support organizations' ability to manipulate or influence their respective spheres of interactivity (spheres of influence) toward desired industry outcomes.

Eduardo Costa's claim that there needs to be 'similar roles, on equal footing' between CFPIC and CTCP is particularly insightful with respect to the latter task representative space of spheres of influence. That is, the 'equal footing' Costa believes he needs in the face of future collaborations with APICCAPS/CTCP. As mentioned earlier, one of the typical industry firm criticisms of CFPIC concerns its strategic orientation on regional youth, which is most explicitly stressed by the Director of Finance at EJECT, Joao Barbosa; 'as long as the training centre [CFPIC] sees itself as a resource for young adults, it can not be successful', he claims. 'It can not be a refuge for young adult education. And as long as it [CFPIC] adopts this approach, it can not be successful' (E. Costa 2006, pers. comm., 06 February). This perception is largely rooted in the view that CTCP, contrary to CFPIC, 'belongs to the firms' because of its direct engagement with them by way of specialist technical training services that are catered to upper management. This self-regulatory space of agent interactivity as well as that of representative space has had several associated factors attributed to it by interviewees. These attributes will be discussed through a series of cognitive maps, which offer a further illustration of the multi-jurisdictional space of Portuguese footwear industry transformation.

6.4 CONCLUSION: REGIONAL VOICES IN A MULTI-JURISDICTIONAL 'SPACE' OF TRANSFORMATION

This chapter has sought to distinguish between individual historical accounts or the knowledge-meaning attributed to socioeconomic circumstances, and the extent of an organization's actions (agency) in response to dynamic environments. The impetus to do so has been an effort to comprehend how the social phenomenon of change can be deduced from agent interactivity throughout the course of Portuguese footwear industry reorganization since the mid 1980s. It is reasonable to conclude that the process of industry transformation has involved periods of firm creation and closure, and restructuring, which reflect fluxes in foreign direct investment and the globalization of footwear/fashion industry production and

commercialization. And it is fair to assume the affects of European Structural Funds, the introduction of new technologies and innovation-enhancing initiatives, and the industry training and negotiated flexibilization of work have made an indeterminate albeit uneven contribution to the footwear industry and the Norte region.

More importantly, these changes have accompanied processes of institutionalization and the subsequent institutional reorganization of industry support. Though like the process of industry firms' adaptation to consumer market changes, which has been varied and uneven, the cases of institutional adaptation and resistance have been manifest in a patchwork of industry support services across a number of varied or functionally differentiated spheres of interaction through organizational responses to footwear industry training needs, improved work practices, and product and organizational innovation. These operational spheres have been structured on self-regulatory and representative demarcations as suggested in interviewees' bounded perceptions of change (cf. Chapter 7 for elaboration).

This concluding observation has been evident in the manner by which industry and regional agents have interpreted change, the meaning they appropriate to its implied socioeconomic circumstances and consequently the extent to which it has been reflected in their operationally, ideologically/market, and organizationally bounded interactivity. A significant find of this first stage of the analysis of respondent data reveals that agents' differing appropriation of knowledge-meaning to change processes in the space of industry-regional transformation can have a role in the legitimization of their interests in, and/or in sustaining their organizational influence over such processes. Indeed this confirms that industry and regional agents have made use of discursive and material communication of change for the purposes of legitimizing their interests in, and/or sustaining their influence over the process of industrial transformation and institutional change, as *distinct* from the actions of other organizations (cf. Luhman 1995, 1997, and Sec. 3.3.1b on 'autopoiesis and cognitive spaces of agent-environment interactivity). Both of these motives by which the knowledge of change has been (re)produced and translated into practice will be further articulated through the 'mapping' of these cognitive spaces of agency across spheres of interest and influence – both of which respectively coincide with self-regulatory and representative demarcations of the multi-jurisdictional environment of Portuguese footwear industry transformation and institutional change (Sec. 7.2-7.3 overall discussion/conclusion for this investigation, cf. also Fig. 8.1).

Hence, in retrospect, this chapter has undertaken an 'adaptive theory' approach to the above research investigation (see Chapter 4), owing the process of industry-regional transformation to any number of individuals, events and institutions as opposed to the use of one pronounced organization or event for the purposes of narrating. With this particular task at hand, this chapter has begun with the establishment of a clear distinction between 'external/contingent' and 'internal/necessary' social relations of change (Sec. 6.2). In the

former, realities or contingencies associated with the social relations of industry-regional transformation persist regardless of what any agent immediately may think of them, or how any agent might act in light of them (see Sec. 6.3.1a for discussion of perceptions of 'price'). The latter set of 'internal/necessary' relations has been articulated in a discussion of three distinct dimensions of change – outcomes, resource accessibility and agent-environment interactivity (Sec. 6.3.2); this chapter has fleshed out each of these dimensions of change by correlating them with a set of distinct social structures – 'embodied', 'institutional', and 'relational' – respectively. Moreover, this has been an attempt to provide a systematic classification of the social structures that have been made apparent by interviewees' accounts of industry-regional transformation, and to articulate this classification in light of earlier chapter discussions of autopoiesis and cognitive spaces of agent interactivity.

Finally, until now, the notion of bounded agent-environment interactivity has been referred to as operationally bounded perceptions of change in self-regulatory spheres of interest, and ideologically/market and organizationally bounded perceptions in task representative spheres of influence. In the following chapter, the nature of these functionally differentiated spheres of interactivity will be explored through the mapping of self-regulatory spheres of interest and task representative spheres of influence (Secs. 7.2 and 7.3). The result of this cognitive mapping exercise in the following second phase of this fieldwork will reinforce some of the key findings of this chapter as well as illustrate how agents' practical use of their knowledge of change has been employed to legitimize their interests in, and/or sustain their organizational influence over the multi-jurisdictional environment of Portuguese footwear industry-regional transformation and institutional change.

Chapter 7 Mapping Cognitive Spaces of Agency in a Multi-jurisdictional Environment

7.1 INTRODUCTION

Chapter 6 has explored differing industry perceptions of change in a multi-jurisdictional space of transformation, completing the first stage of a two-part systematic treatment of fieldwork data for this investigation. The following chapter will map these voices or perceptions of change across self-regulatory and representative spaces of interactivity for the second stage of this treatment of fieldwork data. And together both chapters will have offered the analytical basis for the theorization of multi-agent reasoning of change in Chapter 8; that is a conceptualization of the *juridical space* in which business and public agency knowledge of change has been produced and translated into everyday practice (Fig. 8.1).

The Portuguese footwear industry transformation process of knowledge production and its inclusion in everyday industry practices has been evident in agents' change narratives of institutional complementarity and incompatibility between the daily operations of organizations across spheres of *interest*, and *influence*[138]. And the evidence of these self-regulatory spheres of interest and task representative spheres of influence in agents' change narratives has been expressed through examination of bounded agent interactivity (embodied, relational and institutional). Hence I will now examine different aspects of this bounded interactivity of agents' functionally differentiated spheres of interactivity and recast it as a set of new generalizations, reconstructing and abstracting interviewees' change narratives in Chapter 6 through the interpretative lens of cognitive maps in the current chapter (Secs. 7.3 and 7.4).

Though, it is important to note the following concluding points on Chapter 6 before proceeding with the reconstruction and abstraction of interviewees' change narratives:

> Functionally differentiated spheres of agent interactivity and their respective resource accessibility constitute differing institutional social structures that legitimize and reproduce perceptions of change, sustaining industry and regional agents' influence over the process of industry-regional transformation;
>
> The extent or bounds of agents' knowledge or understanding of change is mirrored in the institutional complementarity and incompatibility across self-regulatory and representative demarcations as that knowledge is put to practice; and
>
> Distinct 'realities' of various agents' actions in response to change, or their provision of resources for that purpose can be understood as the basis of differing knowledge-meanings attributed to socioeconomic circumstances across spheres interest (self-regulatory) and influence (representative) within a multi-jurisdictional space of industry-regional transformation.

The above concluding points reflect the bounded interactivity of agents' self-regulatory and representative spheres of interactivity; this has been broadly suggested in the discussion of

[138] cf. Sec 6.3.2 for discussion of initial observations, which also can be traced back to the early (re)institutionalization of Portuguese footwear industry practices in Sec. 5.3.

different dimensions of change used to articulate interviewees' change narratives in Chapter 6. An immediate output of this first-phase analysis of the fieldwork data has suggested that the interviewees' bounded interactivity has been distinguished along operational (Sec. 7.3.1), ideological/market (Sec. 7.4.1), and organizational (Sec. 7.4.2) bounds; Table 7.1, below, illustrates the different change narratives identified in Chapter 6 and their associated bounds of agent-environment interactivity. This notion of bounded interactivity underpins the following second-stage analysis for this investigation, which seeks to map interviewees' organizational insights into the reasoning of change across self-regulatory spheres of interest and task representative spheres of influence in Sections 7.3 and 7.4 respectively (see Sec. 4.3.2 for full discussion of 'Doing an MDS').

The following chapter is structured into three distinct sections. Section 7.2 introduces the MDS maps of combined respondent data or Group MDS maps (Figs. 7.2-7.3). This introductory section precedes a subsequent discussion of Individual MDS maps in Sections 7.3 and 7.4, and a concluding section on all MDS findings. Again these sections explore the evidence of bounded agent interactivity in the respondents' change narratives (Chpt. 6 findings, Tbl. 7.1), elucidating the probable links between agents' institutional stake in industry transformation and their reasoning of change.

Table 7.1 *'Change'* Narratives Compared

Narratives	Shared/Differing Perceptions	Operationalization	Narrative Bounds
"Disjointed realities"	Recognition of institutional complementarities and incongruities	Act out on organizational interests via (self) regulated operational jurisdictions	**Operational**
Crises of 'change'. "Natural evolution"/ "Environment of fear"	Necessary 'change' argued on the basis of a "survival of the fittest" v. social justice through fair working conditions rationale	Industry studies and strategies Industrial action	**Operational**
Evolutionary 'change' . "Constant innovation"	Recognition of progressive change; Support of firm/industry productivity and competitiveness through commercialized fashion products	Industry networking New technologies/materials Rules of the game (e.g., fashion trends) Necessary risk and uncertainty Rational choice	**Ideological**
Business as usual	Laissez-faire	Unchanging; risk-averse	**Market**
"Risk of self"	Implicit in agents' differing mentalité	Self-imposed risk Degree of "openness"; trust Extents of managed uncertainty	**Organizational**
"Mentalité"	Presence of mentality flux has broad support but as a culturally bounded social structure;	Training Industry strategies	**Organizational**

Source: Author

Table 7.2 'Change' Narratives of Interest and Influence

SELF-REGULATION - 'SPHERES OF INTEREST'	
Institutional Complementarity and Incongruity	
'Change' Narratives	Operationally Bounded Perceptions. "Disjointed realities"
	Operationally Bounded Perceptions. "Crisis narratives"
TASK REPRESENTATION - 'SPHERES OF INFLUENCE'	
"Crises of Change" and Cooperation	
'Change' Narratives	Ideologically / Market Bounded Perceptions. "Evolutionary change" / "Business as usual"
	Organizationally Bounded Perceptions. "Risk of self" / "Mentalité"

Source: Author

7.2 INTRODUCING MDS 'CHANGE' MAPS

This section has provided a brief introduction to a subsequently more detailed discussion of the MDS mapping exercise in this investigation (Secs. 7.3-7.4) by concentrating on Group MDS maps (Figs 7.2-7.3). These MDS illustrations or change maps, which have demonstrated the combined responses of all twelve interviewees to the MDS questionnaire, are relatively simple to interpret (see Annex Tbl. A4.1 for MDS questionnaire). As fully discussed in Chapter 4 (Sec. 4.3.2b), the objective of this mapping exercise has been to systematically analyze respondents' change narratives in Chapter 6 (Sec. 6.3.2, Tbl. 7.1). These narratives have been an output of the semi-structured questionnaire that was designed on the basis of distinct change dimensions (see Sec. 4.3.1b) and corresponding 'theory questions' (Tbl. 4.1). And interviewees' repeated reference to particular aspects of their recollection of industry-regional transformation has been identified in phase two of the fieldwork for this investigation in an effort to systematically analyze the respondent data from the first stage. For instance, there have been regular references to the role of 'learning' in the process of industry-regional transformation; that is the development and exchange of knowledge through partnership. Other references have included 'a more open industry', suggesting increased 'trust' among agents, and the different 'realities' within which agents operate (i.e. 'operational jurisdictions').

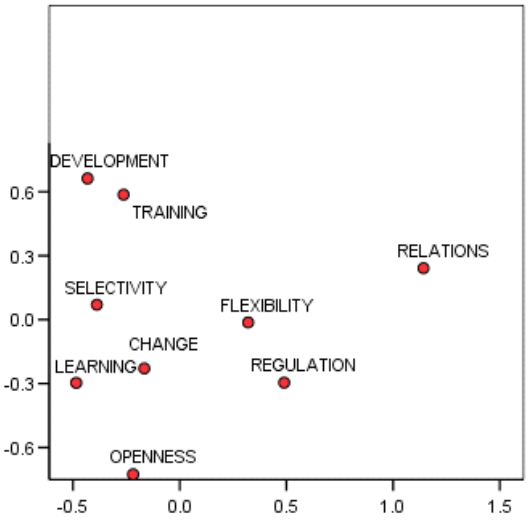
Once several of these patterns had become apparent, the respondent data was coded and classified accordingly into eight separate MDS 'statements' (Tbl. 4.5) and one anchor 'statement' (CHANGE). The nine MDS statements have been subsequently organized into 36 individual pairwise comparisons, which interviewees have been asked to assess with regard to the extent of individually paired statements' interrelatedness or 'similarity' on a Likert scale of 1 to 9; the numerical output has been entered and run on the SPSS MDS routine

(PROXSCAL), systematically having generated graphic illustrations of relative interrelationships between the nine MDS 'statements' for all twelve interviewees combined (i.e., Group MDS maps, Figs. 7.2 and 7.3) and individually (Figs. 7.4a-7.4g). In effect the MDS exercise has taken characteristic determinants of change or MDS statements, which have been subsequently paired and assessed for 'similarity', and has established distinct interrelationships between them in several MDS map outputs. Whereby, the more similar any one statement is to another, the closer the two statements are when represented in geometric space[139] (see Fig. 7.1 below for sample MDS map).

The discussion of the MDS results principally has been limited to the following two sections (Secs. 7.3-7.4). However the first MDS map outputs or Group MDS maps (Figs. 7.2-7.3) have been discussed in the remaining passages of this introduction section, which has been sub-divided into three sub-sections (Secs. 7.2.1-7.2.3). Section 7.2.1 has begun the overall discussion of Group MDS maps with a cross-cutting inquiry into the self-regulatory and representative demarcations of agents' perceptions of industry-regional transformation, which have been explored further in Sections 7.2.2 and 7.2.3 respectively (see Tbl. 7.2). That is, an overall introductory discussion of a Group MDS map of agents' differing perceptions of change and the extent to which these combined perceptions are legitimized and reproduced to suit agents' institutional interests in (Sec. 7.2.2), and to sustain their influence over (Sec. 7.2.3) the process of industry transformation. The employment of Group MDS maps in this introductory discussion has offered a common ground from which to discuss the perceptual (MDS) maps of individual interviewee reasoning of change in subsequent sections (Secs. 7.3-7.4) before concluding on the research findings for the second stage results of this research fieldwork in Section 7.5.

[139]These MDS cognitive map outputs can be assessed for their reliability according to two of the available 'goodness-of-fit' statistics. The most commonly known 'goodness-of-fit' statistic is the '*S-stress*'; it is generally accepted that a reliable map will have an '*S-stress*' of less than 0.1 and no greater than 2.0 (Ferguson and Kerrin, 1997: 207-208, 211); '*S-stress*' is commonly broken down as: 0.00 – perfect; 0.025 – excellent; 0.05 – good; 0.1 – fair; 0.2 – poor (MDS not recommended; stress values > 0.2 are unacceptable). Complementary to the '*S-stress*' statistic is the R^2, which should be greater than 0.8 and approaching unity (1.0); the R^2 is found in an earlier version of PROXSCAL known as ALSCAL. However, a similar statistic is used in PROXSCAL, which is known at Tucker's Coefficient of Congruence (TCC); see Figure 4.1 for example of 'goodness-of-fit' statistic.

Figure 7.1 Sample MDS Map



7.2.1 Group MDS Map Results: Dimensions of 'Change'

It has been necessary to identify different dimensions of change in order to help determine how a social phenomenon such as change has been conceived by different agents, who may be driven or constrained by individual and organizational world views, or working within functionally differentiated spheres of interactivity yet endowed with different and often unequal powers and resources (see Secs.4.3.1b and 4.3.2 for discussion). *What has determined differing agent perceptions of change and why? And are these perceptions legitimized and reproduced to suit agents' institutional interests in, and to sustain their influence over the process of industry-regional transformation?*

Accordingly, interviewees were asked to write down their recollection of change in the process of industry-regional transformation during the initial stage of the MDS exercise (see Annex A7.1a-l for respondent data) [140]. This initial stage of the exercise has been geared toward the central research question (CRQ) of the current thesis investigation; it has sought to elucidate determinant factors of agents' differing perceptions of change and the extent to which these perceptions have been legitimized and reproduced to suit agents' stake in industry transformation. Furthermore, this initial step in the MDS exercise has offered an opportunity to cross-reference each of the twelve interviewee characterizations of the anchor concept of change (CHANGE) with its respective MDS output or map.

The most predominant aspect of these twelve descriptive responses has been the large to small series production provoked by the mounting globalization of European commerce and increased consumer demands (see Sec. 6.3.1 for discussion). Both of these conditions have demanded rapid turnarounds on new product developments, which, in turn, have required

[140] Interviewees were asked to dictate their descriptions after they had taken a moment to write or reflect on their response.

fabricators' adoption of new technological and flexible work practices, and outsourcing and improved integration with international industry networks. While there is some mention of physical changes that accompanied the influx of new foreign direct investment, the majority of the emphasis has been placed on intangible, dynamic and constant changes that have placed a premium on the need to innovate, to ensure quality control and to sustain organizational links.

Below, Figure 7.2 illustrates the result of all interviewee responses to the MDS questionnaire in an Group MDS map. The map depicts a sum of all agents' reasoning of change by positioning it relative to the other remaining MDS 'statements' or determinants of Portuguese footwear industry transformation (Tbl. 7.3, see also Secs. 4.3.1b and 4.3.2a for discussion). Again the more proximate an MDS 'statement' is to another, on a given map, the greater their relationship. It is important to note that MDS maps are an illustration of the best *relative* distribution of each of the statements' relationships to one another for all statements simultaneously, including the anchor concept of change that is seen to be a necessary and contingent precondition of the remaining eight statements. This consequently involves some distortion of the distances between statements.[141] Due to the differing range of agent backgrounds and their respective responses, the MDS output in Figures 7.2 and 7.3, contains a relatively significant level of distortion.[142] Regardless, though, the Group MDS is considered the best approximation of all interviewee responses to the questionnaire.

[141] High degrees of distortion will result in 'stress'; the MDS programme PROXSCAL accounts for this distortion in an *S-stress* calculation. This is an expected output due to the high level of distortion required to accommodate all eleven interviewees' differing perceptions of change. Also note that the rulers on the *x* and *y* axes for Figures 7.2-7.3 have absolutely no numerical significance other than to help visually gage the distances between MDS statements. See above footnote (1) for more detail.

[142] The resulting S-stress for Figure 7.2 is considered poor. Nevertheless, it is the best approximation of all interviewees' responses to the MDS questionnaire, which offers a helpful starting point for this introductory discussion of the MDS map results.

Table 7.3 MDS Statements: Dimensions of Perceived Change

Outcomes dimension	
1. A more 'open' industry	**OPENNESS**
2. Unemployment and uneven business development	**DEVELOPMENT**
3. Better work conditions and increased work flexibility	**FLEXIBILITY**
Industry-Regional Resources dimension	
4. Collective bargaining agreements	**RELATIONS**
5. Technical training deficit	**TRAINING**
6. Selectivity of financial incentives systems and its associated policies	**SELECTIVITY**
Agent-environment Interactivity dimension	
7. Greater 'functional proximity' and 'learning' between industry institutions and businesses	**LEARNING**
8. State regulation and influence	**REGULATION**
Anchor concept:	
9. 'Change' in the process of industry transformation	**CHANGE**

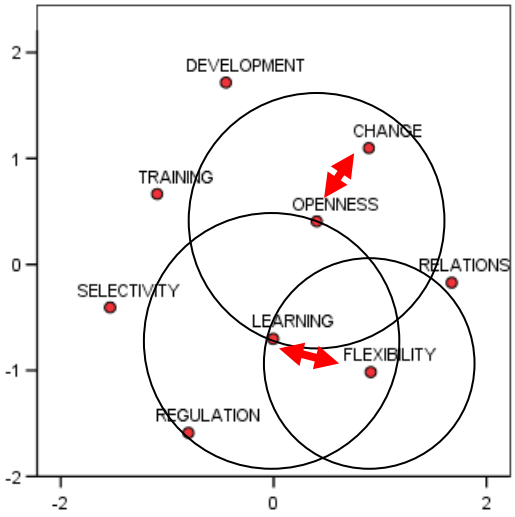
Source: Author

The Group MDS map (Fig. 7.2 below) contains two pairs of statements in close proximity to one another (identified by the red arrows ↔). By centring rings on the paired statements, the beginnings of statement groupings emerge. In the first instance, the interpretations of the Group MDS maps (Fig. 7.2) are seemingly subjective albeit informative. Indeed we can conclude that interviewees generally find a more open industry (OPENNESS) has been at the root of their reasoning of change (CHANGE), which reinforces their handwritten accounts of change at the beginning of the MDS exercise (see Annex Tbl. A7.1a-l). OPENNESS also has had a role in greater functional proximity and learning between industry sector institutions and businesses (LEARNING), which, in turn, has helped to engender a more open industry as well as to contribute to better work conditions and increased work flexibility (FLEXIBILITY). Collective bargaining agreements (RELATIONS), nearly equidistant from FLEXIBILITY and LEARNING, also have had a share in the improvement of work conditions.

There is an additional level of observation to this Group MDS, though, which is not immediately evident. As mentioned earlier, the MDS 'statements' emerged from the semi-structured interview questionnaire (Tbl. 4.1) that was structured along three change dimensions (agent-environment interactivity, resource accessibility and outcomes dimensions). In Figure 7.3 the Group MDS map results from Figure 7.2 have been displayed with their respective dimension of perceived change. After close re-examination of the 'group' map results (with this added layer of information), the close proximity of CHANGE and OPENNESS now can be classified as an outcomes dimension of change. This immediately suggests that OPENNESS is a condition of change, which is engendered through agent interactivity as opposed to a pre-established characteristic of industry or regional agency. That is with particular regard for its proximity to the agent-environment interactivity dimension of LEARNING (Fig. 7.2), the transformation to a more open industry (OPENNESS) may suggest increased institutional complementarity or 'functional proximity' and 'learning' between industry sector institutions

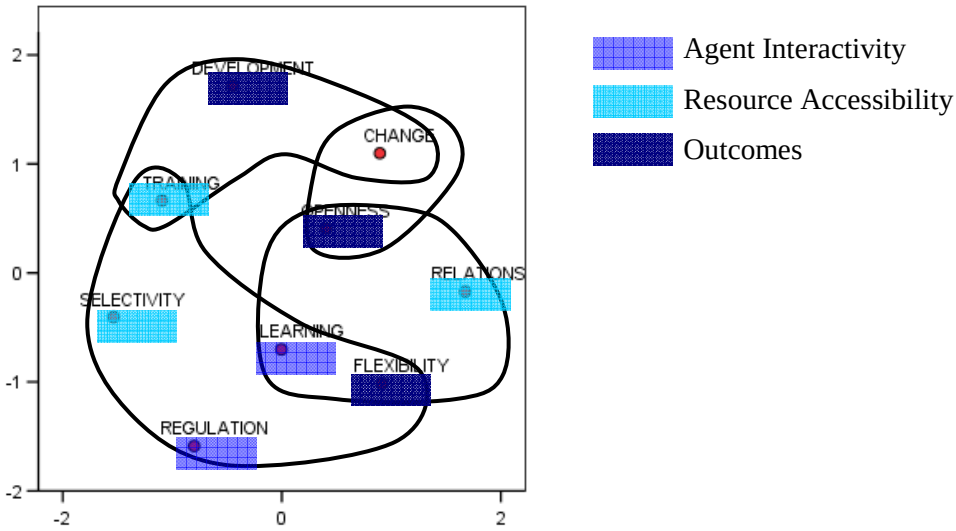
and businesses (LEARNING). This consequently has suggested interviewees generally agree that greater 'functional proximity' and 'learning' has had a role in facilitating necessary change or organizational needs in the Portuguese footwear industry.[143]

Figure 7.2 Group MDS Map: All Interviewees



Source: Author

Figure 7.3 Group MDS Map: Dimensions of 'Change'



Source: Author

7.2.2 Group MDS Map Results: Self-Regulatory Spheres of Interest

The remaining discussion of the Group MDS maps now examines the evidence of self-regulatory spheres of interest followed by that of task representative spheres of influence in

[143] Refer to earlier discussion of Director of Innovation at CTCP, Candida Medon (2006), on 'circle of necessities' (Sec. 6.3.2b.2).

Section 7.2.3. The current section will treat the first of these two demarcations of the space of transformation or *juridical space* by examining the extent to which agents' perceptions are legitimized and reproduced to suit their institutional interests in the process of industry-regional transformation. Particular attention has been paid to dimensions of change in the treatment of both self-regulatory spheres of interest and representative spheres of influence, which constitute differing institutional social structures that legitimize and reproduce agents' perceptions of change (see Chpt 6 concluding points above, Sec. 7.1, and Sec. 6.3.2b for full discussion). In fact, special consideration has been given to resource accessibility (Fig 7.3, Tbl. 7.3), which has been made possible through agent interactions that hold the powers to influence and manipulate other spheres of agent interactivity. This emphasis not only has coincided with the aim to systematically articulate interconnections between all three dimensions of change in the current chapter, but also has corresponded with the current overall research aim to elucidate the probable links between agents' perceptions, or understanding and experience of change on the one hand, and the development and practical use of agents' knowledge of change on the other (see Chpt. 5 Introduction).

This is immediately evident in agents' call for greater 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING), which has been a reoccurring reference to change in the process of industry-regional transformation (see Sec. 6.3.1b) alongside concerns with appropriately targeted technical training (TRAINING, Sec. 6.3.2b) and the future security of workfare in the industry and region. As illustrated in Tbl. 7.3, technical training is an industry-regional resource– a product of agent-environment interactivity structured on coordinated interaction and regulation (i.e., LEARNING and REGULATION). And the following systematic treatment of perceived interrelated factors of change (LEARNING) and regional training provision among interviewees would not have been possible without the implementation of a MDS analysis (or similar). This has enabled a thorough investigation into the social phenomenon of change, which is conceived differently by agents across functionally differentiated spheres of interactivity, and who consequently may be driven by individual and organizational world views and/or endowed with different and often unequal powers and resources.

First, there is little direct relationship between LEARNING and TRAINING, *and* CHANGE in the above MDS output (Fig. 7.3). Thus the industry's technical training deficit could well be the result of poor collaboration between industry sector institutions and businesses, and/or inappropriate government policies or shortcomings as suggested by the relative 'proximity' of technical training (TRAINING) and financial incentives (SELECTIVITY) statements.

Second, the industry-regional transformation 'outcome' in unemployment and uneven business development (DEVELOPMENT) is another associated factor of interviewees' perception of change. And the close proximity assigned by interviewees to DEVELOPMENT

and a technical training deficit (TRAINING) in the industry supports respondent data from semi-structured interviews (Chpt. 6). In fact the MDS exercise has highlighted a group of interrelated factors that would not have been possible solely through an analysis of interviewee responses to the semi-structured interviews. With particular regard to these interrelated factors, we can elucidate the following concluding points:

> The relative distance between TRAININIG and FLEXIBILITY statements confirms interviewees' perception that any positive contribution of training to positive change has been limited and, in turn, more likely to contribute to unemployment and uneven development (DEVELOPMENT); though
>
> TRAINING does appear to have benefited from the outcome of a more open industry (given its relative proximity to OPENNESS);
>
> The deficit of technical training (TRAINING) has helped to aggravate unemployment and uneven business development outcomes (DEVELOPMENT);
>
> Interviewees' placement of financial incentives systems (SELECTIVITY) in close proximity to the limited impact of TRAINING (in terms of positive change and development) suggests that they hold poor collaboration between industry sector institutions and businesses, and/or inappropriate government policies or shortcomings at fault.

7.2.3 Group MDS Map Results: Task Representative Spheres of Influence

This section takes forward the above introductory discussion of Group MDS map results. And once more the resource accessibility dimension of change offers useful insights into the second of two demarcations of the Portuguese footwear industry space of transformation. This second demarcation constitutes task representative spheres of influence – as distinct from the former spheres of interest yet a complementary space of agent interactivity. With this task at hand, the following section will examine the extent to which agents' perceptions are legitimized and reproduced to suit their influence over the process of industry transformation.

The above discussion has highlighted the resource accessibility of technical training provisions (TRAINING) in the context of other MDS statements, including the resource accessibility of financial support through EU/State incentives (SELECTIVITY). This section now will place its emphasis on collective bargaining agreements (RELATIONS) - the third and last of the resource accessibility factors identified in Table 7.3.

Unlike their emphasis on technical training provisions (TRAINING), interviewees more closely have associated collective bargaining agreements (RELATIONS) with better work conditions and increased work flexibility (FLEXIBIILITY) – an 'outcome' dimension of change. Interviewees' placement of the outcome of a more open industry (OPENNESS) nearly equidistant to RELATIONS also is worth noting. The significance of this output, in the first instance, lies with the strong association between 'learning' and better work conditions; that is, agent-environment interactivity that has encouraged better work conditions (FLEXIBILITY) through greater 'functional proximity' and 'learning' between industry institutions and businesses (see Fig. 7.3). Interviewees' strong association between a more open industry

(OPENNESS) and change may suggest, therefore, that an increased degree of openness among industry and regional agents has facilitated 'learning' environments and greater 'functional proximity' (LEARNING), and, in turn, a stronger or more productive engagement with collective bargaining agreements (RELATIONS). Once more, this preliminary observation broadly reinforces the agent-centred perspective of agent-environment interactivity—engendered resource accessibility (see above concluding remarks in Sec. 7.1, and Sec. 6.3.2 for discussion). Therefore, one arguably can conclude at this stage that:

> CHANGE is strongly associated with unemployment and uneven business development (DEVELOPMENT);
>
> Whilst 'learning' between industry sector institutions and businesses (LEARNING) has contributed to better work conditions (FLEXIBILITY), TRAINING is not perceived as a determining factor of this dynamic;
>
> Interviewees generally credit collective bargaining agreements (RELATIONS) to a more open industry (OPENNESS), which has helped to push industry agendas on better work conditions and increased work flexibility (FLEXIBILITY); and
>
> A more open industry (OPENNESS) is not perceived by interviewees as a precondition of change but rather an engendered 'outcome' of the inter-dynamic of 'learning' between industry sector institutions and businesses (LEARNING), better work conditions (FLEXIBILITY) and collective bargaining agreements (RELATIONS).

The following discussion of 'Individual MDS' map results will offer a more nuanced articulation of the self-regulatory and representative dynamics of industry and regional concerns. Though, it is important to note how the above example of apparent tensions between available technical training and its delivery is legitimized and reproduced to suit industry and regional agents' institutional interests in the process of industry-regional transformation.

There is a broad element of contention among agents. For instance, there is disagreement among agents over the recognition of effective albeit limited EU/State funding of industry training and the dissatisfaction with its ability to accommodate immediate industry needs (see Sec. 6.3.2b for full discussion, esp. Sec. 6.3.2b.3). This has been figuratively expressed by interviewees as the 'disjointed realities' of different 'operational jurisdictions' or functionally differentiated spheres of interactivity (Sec. 6.3.2b). A closer examination of this and other points of contention across interviewees' interest-driven desire to influence the process of industry transformation are explored in the subsequent mapping of self-regulatory spheres of interest and representative spheres of influence in Sections 7.3 and 7.4, respectively.

7.3 MAPPING SPHERES OF INTEREST: OPERATIONAL BOUNDS OF INSTITUTIONAL COMPLEMENTARITY AND INCOMPATIBILITY

This section will elucidate links between interviewees' operationally bounded perceptions of change and the practice of their knowledge of industry-regional transformation. This aim has

been accomplished through the mapping of self-regulatory spaces of agent interactivity or spheres of interest that have been suggested in interviewees' narratives of change (Tbl. 7.1).

These self-regulatory spaces of agent interactivity or spheres of interest already have been identified as the institutional complementarity and incompatibility of interviewees' representative interests in, and approaches to industry training (see Sec. 6.3.2c). These previous discussions also have highlighted the multi-jurisdictional or juridical space of transformation, which has been suggested through distinct operational spheres in, and across which agents act on their differing interests on a degree of 'trust' and 'credibility' between organizations (see Sec. 6.3.2c.1 for full discussion of cognitive and institutional proximity). Interviewees' operationally bounded perceptions of change have been implicit in the following discussion of their 'disjointed realities' and 'crises' narratives of change (Tbl. 7.2), which now will be systematically examined before a subsequent discussion of spheres of influence in Section 7.4.

7.3.1 'Change' Narratives: 'Disjointed Realities' and 'Crises' of Change

'Institutional' and 'relational' social structures (see Sec. 6.3.2b and 6.3.2c, Scott 2001) of representative spaces of interactivity have been implicit in interviewees' operationally bounded perceptions of change, which will be evidenced in their change narratives of 'disjointed realities' and 'crises' of change. The following discussion of select Individual MDS maps has helped to elucidate the links between interviewees' knowledge of industry-regional transformation and these operationally bounded perceptions of change.

Interviewees' differing perceptions of change reflect the self-regulatory spaces of interactivity within and across spheres of interest that have been implied in previous chapters. But with the help of the MDS exercise, these operationally bounded perceptions of change can be systematically examined. In this first instance, 'disjointed realities' and 'crises' of change offer further insights into the other remaining change narratives because they reflect the institutional underpinning of interviewees' differing perceptions of change. As mentioned before, the distinct 'realities' of various agents' actions in response to change, or their provision of resources for that purpose can be understood as the basis of differing organizational practices across self-regulatory spaces of interactivity or spheres of interest.

Furthermore, the previously discussed observations of institutional complementarity and incompatibility between organizations across functionally differentiated spheres of interactivity is historically rooted in the (re)institutionalization of agents' remit over industry and regional concerns (see Sec.5.3.2 for discussion). That is, the consequential institutionalization of these 'jurisdictions' has been reflected in interviewees' influence over the distribution of resources as well as their organizational powers to intervene (Sec. 7.4, see

also Sec. 6.3.2b for discussion)[144]. Interviewees' industry and regional concerns or 'crises narratives', therefore, reflect the consequential restructuring or adaptation of their operational spheres notwithstanding institutional constraints, the pursuit of financial resources, and the exercise of their organizational powers and/or remit. The remainder of this section now will examine each of the abovementioned change narratives through the lens of select MDS maps in Section 7.3.1a and 7.3.1b, respectively.

7.3.1a Operationally Bounded Perceptions: 'Disjointed Realities'

The following section examines the operationally bounded perceptions of CFPIC and EPF, and CTCP. The different operational spheres within which these organizations provide industry training becomes apparent in the 'Individual MDS' maps of their reasoning of change (CHANGE). Unlike the training programmes of CFPIC and EPF, CTCP is mostly focused on footwear business management and administration related areas such as product marketing and commercialization. Its training programme is not bounded to the policy guidelines or restrictions of any State agency or ministry as required of the CFPIC and EPF training programmes.

CFPIC has a long established presence in the *Norte* region as the principal training centre since 1965, training at seven separate facilities throughout the region at the peak of its operational activity in 1990. Among an increasing host of private training facilities, EPF is another public training organization that has carved out a unique place in the spectrum of technical training services in the region. EPF is a regional training centre, which was established by Felgueiras Council in 1991 with a ninety-five percent share in the venture.[145] Whereas CFPIC is a quasi-public government organization (QUANGO) with direct Government funding, EPF is a pedagogically autonomous organization that constantly must pursue external funding to complement its other resources (local government funding and student fees).

Despite their differences in training provision and in territorial scope, it is important to note that both organizations' sphere of interest is operationally bounded or partly dictated by the State ministerial powers of the *Ministério do Trabalho e Solidariedade Social*[146] (hereafter MTSS) and the *Instituto de Emprego e Formacao Profissional*[147] (hereafter IEFP). This has implications for both EPF and CFPIC despite their relative level of 'self-regulation'. EPF secures a strong public relations status in the region through its coordination of an annual

[144] Refer to Sec. 5.3.2 for discussion of the parallel processes of industrialization and institutionalization of Portuguese footwear industry practices.
[145] EPF offers academic and professional training in accordance with the completion of secondary education requirements that are consistent with Level III European certification.
[146] Ministry for Work and Social Solidarity
[147] Institute for Employment and Professional Training

fashion footwear show - *Descalço*. The show is organized partly by students, encouraging young designer interests in the fashion and design industries and showcasing student work alongside the latest footwear fashion lines by local and regional enterprise.[148] But EPF's desire for a more concerted impact on the council and the surrounding region, through a postsecondary training programme, has been refused by MTSS (see Sec. 6.3.2b.3 for full discussion). The apparent implications of MTSS powers over CFPIC, on the other hand, have not been confirmed by the interviewee. Thus the uniqueness of the CFPIC case lies with the internal governance structure of the organization, which, despite its democratic appeal, remains largely regulated by MTSS powers.

CFPIC was originally established through partnership of the regional footwear business association and labour unions in 1965 (see Tbl. 5.25a). Following the national revolution in 1974, CFPIC was re-instituted through the partnership of APICCAPS (footwear business association) and MTSS/IEFP in 1981; this partnership later took on the local footwear labour union representative SOICAL (c/o FESETE) in 1984. By way of this arrangement, APICCAPS and FESETE currently secure the institutional powers that allow them to nominate the organization's managing director. Nevertheless, like EPF, CFPIC is monitored and regulated by MTSS/IEFP.

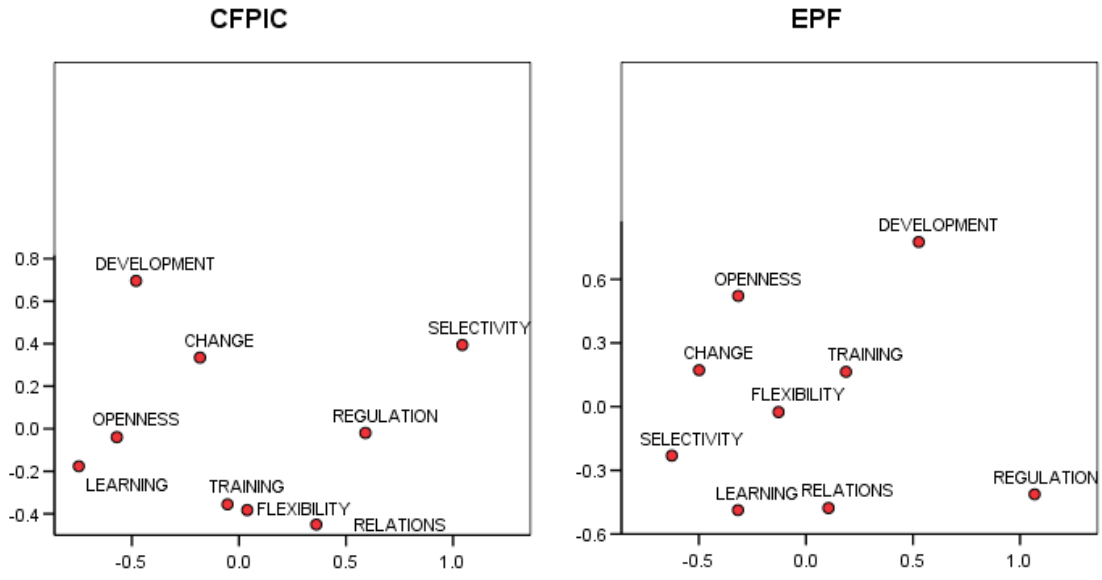
The influence of MTSS/IEFP on EPF and CFPIC has placed both organizations at some odds with CTCP training efforts. That is, despite the organizational measures that have aimed to ensure fair representation of both Portuguese footwear industry training and regional skills upgrading concerns at CFPIC and EPF, both organizations have had to accommodate a wider student curriculum that fulfils national requirements for mandatory secondary schooling (Level III) *in addition* to the usual business of supplying technical training to the footwear industry. This has motivated CTCP, the footwear technology centre, who is not conditioned by the institutional controls of MTSS/IEFP, to cater its technical and professional management skills training programme to the immediate needs of its industry members (c/o APICCAPS). Therefore, in this instance, the extent of institutional complementarity and incompatibility between the organizations of CFPIC and EPF, and CTCP has been directly linked to their respective systems of interaction, which remain open to the environment of industry training needs and practices yet remain functionally differentiated from, or operationally closed to other organizational practices.

However, the abovementioned spheres of interest are not limited to the institutional complementarity and incompatibility *between* organizations operating within functionally

[148] The event's relative success is held by some to be largely limited in its ability to showcase regional industry potential and attract foreign investment. These views have wide support for international trade fairs. But the comparison is an unfair assessment because the EPF initiative and international trade fairs pursue different objectives; that is the student show infuses its participants and immediate communities with a sense of regional identity not to mention, more importantly, a community vehicle for the wider vocational training programme at EPF. Whereas an international trade fair offers a platform for business promotion and networking; it is not aimed necessarily at local community development.

differentiated spheres of interactivity. The full extent of observed agent interactivity has suggested that these operational spheres or 'jurisdictions' can be either parallel or co-placed as a result of the institutional complementarity or incompatibility of organizational practices. The latter has been identified in APICCAPS' representation of business interests within the organizational structure of CFPIC, which is strongly linked to the national labour skills policies of MTSS/IEFP. The former has been identified in the differences of training approaches at CFPIC and EPF – both of which act within a shared operational sphere as a result of their institutional responsibility to MTSS/IEFP unlike CTCP which has accused the two organizations for not fully addressing industry needs. However, despite operating within a shared 'operational jurisdiction', CFPIC and EPF do not interact. Though despite the differences in institutional makeup at each of the two organizations, within a shared 'operational jurisdiction' determined by MTSS/IEFP, there clearly has been an influence on their individual approaches to training. That is, whilst CFPIC's direct link to MTSS/IEFP has resulted in a laissez-faire approach to regional training, the local council stake in EPF performance seemingly has encouraged an outreach-training approach that builds on close links with local and regional enterprise (see Sec. 6.3.2b.3 for full discussion). A select look at the Individual MDS maps of CFPIC and EPF (Fig. 7.4), below, reinforce this latter notion of complementarity and incompatibility of institutional interests.

Figure 7.4 'Individual MDS' Map Results: CFPIC and EPF



Source: Author

CFPIC draws a strong association between the selectivity of financial incentives systems and its associated policies (SELECTIVITY) and State influence and regulation (REGULATION) in Figure 7.4, above; this may be attributed to the organizations' logical reasoning of the mutual influence of government policy and European Community Support Frameworks (CSF). However CFPIC's negative perception of change (CHANGE), confirmed

by the organization's placement of CHANGE 'statement' in close proximity to unemployment and uneven business development (DEVELOPMENT), may suggest that financial incentives systems and their associated policies (SELECTIVITY) have been unable to appropriately address industrial needs and/or the industry has been unable to capitalize on available financial incentives ('mentalité'). The latter organizationally bounded perception of change will be examined more closely in Section 7.4.2a, particularly in light of the abovementioned change narratives.

As one might expect of training organizations, both CFPIC and EPF place technical training (TRAINING) and better working conditions (FLEXIBILITY) in close proximity. Unsurprisingly, however, this is not the case with CTCP. Again, the abovementioned institutional arrangements at CFPIC and EPF has required CTCP to compensate for the technical and professional management skills gap generated as a result of the early post-compulsory education and training skills instruction required of CFPIC/EPF by MTSS/IEFP. Therefore, CTCP does not strongly associate the TRAINING with FLEXIBILITY statements. Instead, CTCP has suggested a closer relationship between technical training and uneven development and unemployment (DEVELOPMENT) in the industry and region because it has maintained industry needs are not fully addressed in the training programmes at CFPIC and EPF.

Nevertheless, the strong association that CFPIC and EPF assign to training and better working conditions, relative to change (CHANGE), varies. For instance, it is not surprising that EPF, who has highlighted the conservative increase in industry firms' recognition of the importance of training in fieldwork interviews ('mentality flux'), has a positive reasoning of the interrelationship of technical training (TRAINING), a more open industry (OPENNESS) and better working conditions (FLEXIBILITY). CFPIC, on the contrary, has suggested that its strong association between technical training and better working conditions does not necessarily have implications for positive change in the industry as a whole (cf. discussions in Secs. 6.3.2b.3 and 6.3.2b.2). In other words, CFPIC's reasoning of training and better working conditions has suggested that industry developments ('business as usual') have not been altered necessarily through training. This view has been argued strongly by the interviewee with regard to the role of 'innovation', placing special emphasis on the market bounded process of industry-regional transformation and the appropriateness of a regional response through financial incentives systems and their related policies (SELECTIVITY). On the basis of this view, the distance between SELECTIVITY and CHANGE on the CFPIC map (Fig. 7.4) suggests that EU/State Structural funds have had little or no relation to the positive dynamic between 'learning' (LEARNING) and a more open industry (OPENNESS), and training and better working conditions (FLEXIBIILITY). EPF (like CTCP, Fig. 7.4) has not shared this view. And this may be related to the important role that EU Structural funds plays in the daily operations at EPF (as it similarly does with CTCP). In fact CTCP has had a strong positive

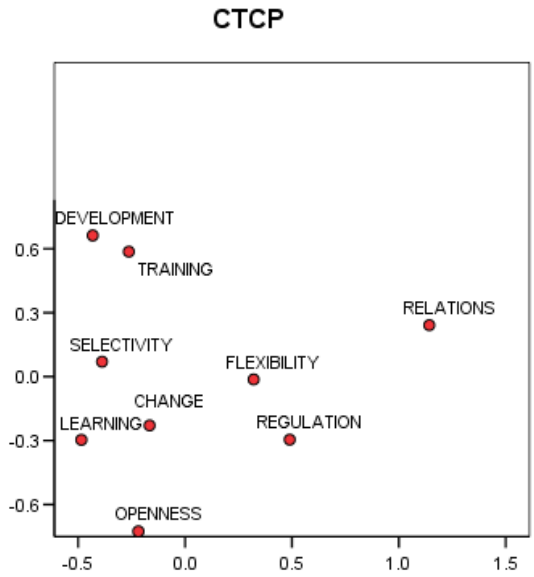
view of industry change to which it has claimed a significant contribution (Sec. 6.3.2b.2). This view is discernable in the technology centre's Individual MDS map where CHANGE is placed at a relatively considerable distance from uneven development and unemployment (DEVELOPMENT), and closely linked to LEARNING and SELECTIVITY (Fig. 7.5)

As far as LEARNING is concerned, both CFPIC and EPF have *not* found it has helped to meet the needs of technical training (TRAINING) in the industry. However they have found technical training, which they have suggested *has been* administered effectively, has contributed to better work conditions and increased work flexibility (FLEXIBILITY). CFPIC also has reasoned that LEARNING has helped to engender a more open industry (OPENNESS), while EPF has found it has contributed to collective bargaining agreements.

Furthermore, with respect to the differing treatment of OPENNESS and LEARNING, both CFPIC and EPF have suggested that the inherent contributions of greater 'functional proximity' and 'learning' between institutions and businesses to discernable changes throughout the industry have been limited. Whilst CFPIC strongly has associated LEARNING and a more open industry (OPENNESS) in the process of industry-regional transformation, this seemingly positive association is limited due to the organization's overall reasoning of change[149]. EPF has communicated its reasoning of change through an inter-dynamic relationship with OPENNESS, FLEXIBILITY and TRAINING, disassociating the process to a more open industry (OPENNESS) from the process to greater 'functional proximity' and 'learning' between institutions and businesses (LEARNING).

[149] CFPIC has negatively reasoned industry change on the basis of its distance to the MDS statement of DEVELOPMENT (uneven development and unemployment).

Figure 7.5 'Individual MDS' Map Results: CTCP



Source: Author

In other words the latter view by EPF suggests, contrary to CFPIC (and CTCP), that a more open industry does not necessarily imply greater 'functional proximity' and 'learning' between institutions and businesses (cf. Figs. 7.4 and 7.5). This distinct difference in the treatment of OPENNESS and LEARNING, therefore, may well be the product of the abovementioned institutional circumstances at CFPIC and EPF – whereby the lack of institutionalized links to other organizations in the region has led EPF to disassociate the two statements. This view has been expressed by EPF in its earlier statements on the presence of 'disjointed realities' across operationally bounded or functionally differentiated spheres of interactivity in the space of industry-regional transformation (Chpt. 6). Thus the suggested 'disjointed realities' clearly may offer a valid assessment of agent interactivity across the space of industry-regional transformation (Sec. 6.3.2b).

7.3.1b Operationally Bounded Perceptions: 'Crises' of 'Change'

This section now will examine the second of the two change narratives on operationally bounded perceptions of change, examining distinct aspects of the process of industry-regional transformation that evidently reflects the institutional representation of business and labour concerns. It will comparatively discuss the Group MDS maps of APICCAPS/CTCP and FESETE/SOICAL, which highlight distinct albeit not mutually exclusive institutional interests in business and labour concerns respectively.

APICCAPS, the Portuguese national footwear trade association, is an independent member organization with a long established presence in the sector since 1953 (see Tbl. 5.1a, Chpt. 5, Sec. 5.3.2). It also has the largest financial stake in CTCP, the industry's technology centre,

having had a direct role in its creation in 1985 (see Chpt. 5, Sec. 5.4.1). CTCP is an autonomously managed organization, though, despite APICCAPS' seat on the CTCP board of directors. Suffice to say, both organizations can be said to operate within a shared and highly coordinated 'operational jurisdiction' (that of their industry member firms), providing different but complementary industry services in line with their respective organizational remits through occasional partnership with business, and university research and industry technology centres (i.e. *FACAP*, *SHOEMAT* and *FATEC*).

APICCAPS publishes the strategic plans for the industry in addition to providing in-house member services such as assistance on legal matters. It also makes a concerted effort to help market and commercialize footwear products through annual coordination of the national footwear trade fair *MOCAP* (until 2004) as well as travel assistance to other international footwear trade fairs.[150] The organization's underlying concern with promoting the quality of the Portuguese footwear product led to its launch of the *Portuguese Quality Shoes* label. Having emerged from a laboratory aimed at footwear quality certification, CTCP continues to embrace this objective albeit packaged within innovation-enhancing projects, namely *FACAP*, *SHOEMAT* and *FATEC*. It also has a closer relationship with industry member firms through its outreach approach to firm assistance, which includes on-site visits and consultation as well as short-term in-house training courses at the centre. Lastly, the efforts of both APICCAPS and CTCP have been much credited to European Structural Funds.[151] This European financing, from 1986 to 2006 (see Sec. 5.2.1), has been made possible through a variety of mixed and overlapping industrial, social and regional policy mechanisms. Furthermore both organizations' more loose or elastic organizational and self-regulatory structure has allowed for representation on an individual firm member level, and on an industry level. International representation largely has been the remit of APICCAPS and the national chamber of commerce (ICEP).

FESETE is the national labour union for textiles, clothing and footwear industries in Portugal. Its representation of footwear industry labour interests is administered through three regional labour union organizations. These organizations include SOICAL (*Sao João da Madeira*), SCAL[152] (Guimaraes) and STCAL[153] (Porto), representing the Aveiro and Coimbra, Trás-os-Montes, and Porto districts respectively. The most senior of these organizations is SOICAL whose predecessor organization was a founding partner of CFPIC in 1965. SOICAL has a long established history in the older of the two footwear industry conurbations, which is

[150] The primary cause was attributed to low attendance rates and international competition; MOCAP was typically located outside Porto in the Sao Joao da Madeira conurbation whereas other competing trade fairs were located in large city-regions and/or fashion capitals. In its final year, MOCAP was unsuccessfully held in the historic centre of Porto.

[151] This European financing has included European Regional Development Funds (ERDF), European Social Fund (ESF).

[152] Sindicato do Calçado, Malas e Afins, Componentes, Formas e Curtumes do Minho e Trás-os-Montes

[153] Sindicato dos Trabalhadores de Calçado, Malas, Componentes, Formas e Ofícios Afins do Distrito do Porto

centred on the city of *Sao João da Madeira* (Sec. 5.3.1b, Fig. 5.3). And it was a leading regional player in industrial actions for just wages and an overall betterment of working conditions during the 1980s.

The institutional relationship between FESETE and SOICAL is not similar to that of APICCAPS and CTCP. Unlike the autonomous albeit coordinated actions of APICCAPS and CTCP, SOICAL takes its organizational queues from FESETE. Furthermore, unlike APICCAPS' interest in footwear industry-related matters, FESETE has cross-sectoral interest in footwear, *and* clothing and textiles industry concerns. It also plays an important role in the negotiation of collective bargaining agreements with APICCAPS. Thus FESETE is responsible for negotiating and overseeing the implementation of collective bargaining agreements with APICCAPS. These agreements are the principal political mechanisms set out in national labour policy, requiring business community representatives, like APICCAPS, to come together with union organizations to discuss the implications of new labour policy measures.

Upon examining both group of organizations, there is an apparent tension between the reasoning of change that is communicated by APICCAPS/CTCP and FESETE/SOICAL in their responses to the semi-structured interview questions. Some of this stress is implicitly evident in the 'crises' narratives in early industry documents, recording the early formation of footwear industry practices and its fledgling institutional structures (Von Gersdorff 1961). Chapter 5 discusses these early concerns of larger footwear industry firms, aspiring to compete in Portugal's domestic and international markets during its successful industrialization phase in the immediate post-war decade. Their concerns were centred on unregistered micro-enterprises that were able to quickly accommodate requests for retail samples and small orders, and the perceived irregularity of the domestic commercial sector behaviour that was helping to sustain these unregistered businesses. Much of this concern often was communicated through expressions such as the 'pulverização' or eradication of (registered) footwear industry activity in Portugal (see Sec. 5.3.2a for full discussion).

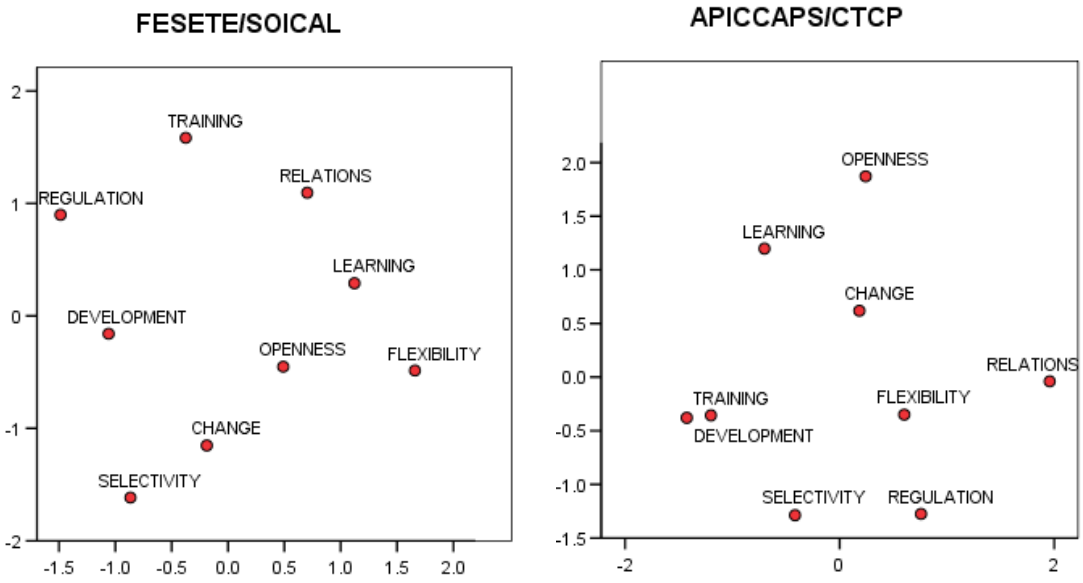
Ironically the Portuguese footwear industry has come to embrace the value of flexible production practices that can handle small orders, and accommodate an increasingly globalized and consequently volatile fashion industry. This has brought on arguments for 'constant innovation' without which the footwear industry will recede into non-existence according business leaders such as APICCAPS and CTCP. The argument is one of necessary change, of 'competitiveness', which is aggressively communicated through industry strategies and performance reports published by APICCAPS. But this demand continuously must be contemplated with regard for its inherent complexities as previously discussed in Chapter 6 with respect to the issues of 'price', fashion brands and industry image (Sec. 6.3.1).

This push for 'constant innovation' largely has accompanied the threats to the industry from capital divestment. Whilst popular explanations for this downturn in the expansion of the footwear exports and production orders has been attributed to competing low wage markets

worldwide, there remains a high level of optimism among Portuguese footwear producers who continue to associate future competitiveness with ‘design’. That is, firm survival through competitive fashion brands. FESETE and SOICAL have recognized the importance of ‘competitiveness’, but have continued to argue that better work conditions and flexibility (FLEXIBILITY) must accompany firm restructuring throughout the process of industry transformation. This concern primarily has accompanied the troublesome state of long-term unemployment in the region, and the vulnerable state of a predominantly uneducated female workforce whose highly specialised skills will not award them access to alternative labour markets (see Sec. 5.3.1a for discussion). Both APICCAPS/CTCP and FESETE/SOICAL are membership organizations that represent a relatively small proportion of the overall firm/labour population. Nevertheless, they have justified their position as leading stakeholders in the process of industry-regional transformation by having defended their respective interests.

Whereas APICCAPS/CTCP have reasoned the above process of industry transformation as one of ‘natural evolution’ to which they strategically have contributed through technology transfer, technical and professional management skills training, and industry product quality certification (Sec. 6.3.2a.1), FESETE/SOICAL have reasoned that a high level of job insecurity consequently has contributed to an ‘environment of fear’ throughout the industry and region (Sec. 6.3.2b.1). For the latter, the ‘fear’ among industry workers has inhibited labour union efforts to coerce workers into industrial action and/or negotiations with APICCAPS and industry firms; the ‘fear’ is simple. Many workers have preferred less than optimal working conditions over unemployment. Regardless, however, FESETE has made industry level progress with the restructuring of existing salary grade scales and with an overall amelioration of working conditions that possibly may help to pacify some of the negative anxiety among the footwear industry’s working population. This process has been concomitant with an industry-wide reconsideration of industry work classifications that have recognized industry employees’ individual work progression. This collective bargaining agreement also has incorporated a mandatory continuous education training programme of all industry firms. But the relatively positive outcome of these industry relations between FESETE and APICCAPS would not have been possible without significant Government pressure.

Figure 7.6 Group MDS Map Results: FESETE/SOICAL and APICCAPS/CTCP



Source: Author

In short whilst APICCAPS/CTCP have appropriated a survivalist reasoning to the success and failure of firms as the 'natural evolution' of industry transformation, FESETE/SOICAL have not discounted the social injustices imposed on the industry's workforce on grounds of firm 'survival' and/or dare say its 'competitiveness'. The above Group MDS maps do not immediately signal evidence of these operationally bounded perceptions of change that APICCAPS/CTCP and FESETE/SOICAL express through 'crises' of change narratives of 'evolutionary change' and 'environment of fear', respectively. However, it has been possible to identify underpinning elements of the organizations' reasoning of 'crisis'.

The first of these elements is technical training (TRAINING). The abovementioned politics of training provision, which has led CTCP to attribute the inappropriateness of training provision to uneven development and unemployment (DEVELOPMENT, Fig. 7.5), is again undeniably evident in the Group MDS map of APICCAPS/CTCP (Fig. 7.6). The map similarly recognizes the contribution of 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING) that has been identified by CTCP. Though, this joint recognition of LEARNING is not placed in an inter-dynamic relationship with financial incentives (SELECTIVITY). This again signals the institutional incompatibility between APICCAPS/CTCP and the MTSS/IEFP regulated post-compulsory education and training programmes at CFPIC/EFP. The strong association given to TRAINING and DEVELOPMENT also suggests that technical training threatens the 'natural evolution' of footwear industry practices; that is the desire for 'constant innovation'.

Lastly, the FESETE/SOICAL Group MDS map does not immediately illustrate any strong relationships between MDS statements. But a careful examination can be telling. In the first instance, better work conditions and flexibility (FLEXIBILITY) has been attributed to a more

open industry (OPENNESS) and LEARNING. However, whilst FESETE/SOCIAL's reasoning of change (CHANGE) positively has recognized improvements in FLEXIBIILITY, this reasoning has been more closely attributed to OPENNESS or industry firms' increased willingness to improve working conditions than a product of greater 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING), and collective bargaining agreements (RELATIONS). This is not surprising in light of the 'environment of fear' to which FESETE has referred in the semi-structured interview.

Another supporting point of this observation is the relatively strong association that APICCAPS and CTCP have attributed to collective bargaining agreements (RELATIONS) and better working conditions (FLEXIBILITY). This is easily explained by the strong hand that APICCAPS has played in the most recent round of collective bargaining negotiations; it also explains why FESETE and SOICAL have not strongly associated greater 'functional proximity' (LEARNING) with the process of industry-regional transformation (CHANGE), despite their recognition of the contribution of LEARNING to past accomplishments with collective bargaining agreements (see Sec. 6.3.2b.1 for full discussion).

The above discussion has highlighted the 'institutional' and 'relational' social structures that underpin interviewees' operationally bounded perceptions of change. This observation has supported the first phase analysis/discussion of interviewee respondent data in Chapter 6 (see Secs. 6.3.2 and 6.3.2c.1 for full discussion). It has been possible to confer the generalizations or claims in the previous chapter because of the systematic analysis made possible through the MDS exercise. In fact, the identification of the abovementioned change narratives of 'disjointed realities' and 'crises' have been critical to this overall accomplishment because they are highly charged; if this investigation had been limited to the identification of these narratives (as has been achieved in Chpt. 6), there would have been little in the way of any explanation of probable links between interviewees' differing perceptions of change and the practice of their knowledge of the process of industry-regional transformation. A key MDS 'statement' for the examination of interviewees' operationally bounded perceptions of 'change´ has been the relative position of greater 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING) to change (CHANGE) and the other remaining MDS 'statements'. In other words the MDS exercise has helped to characterize the institutional complementarity and incompatibility of interviewees' relational environments, which implicitly has been suggested through their change narratives or operationally bounded perceptions of change.

Thus the several MDS 'statements' identified in the respondent data have enabled a systematic characterization of interviewees' spheres of agent-environment interactivity; together with interviewees' change narratives (Chpt. 6), the MDS exercise has offered a telling lens on distinct operationally bounded spaces of agent interactivity or self-regulatory spheres of interest within a multi-jurisdictional space of industry-regional transformation or *juridical*

space. The following section has explored another category of agent-environment interactivity, offering further insights into ideologically/market, and organizationally bounded perceptions of change (see Secs. 6.3.2a and 6.3.2c).

7.4 MAPPING SPHERES OF INFLUENCE: ORGANIZATIONAL/IDEOLOGICAL BOUNDS OF‘CRISES’ OF CHANGE AND COOPERATION

This section will elucidate links between interviewees’ ideologically/market and organizationally bounded perceptions of change, and the practice of their knowledge of industry-regional transformation. This aim has been accomplished through the mapping of task representative spaces of agent interactivity or spheres of influence that have been suggested in interviewees’ narratives of change (Tbl. 7.1).

These task representative spaces already have been identified partly as the differing industry assessments of ‘crisis’ scenarios or narratives and the perceived degree of *cooperation* required or contingently possible. These differing standpoints by industry and regional agents on the state of industry needs have been suggested above in the operationally bounded ‘crises narratives’ (Sec. 7.3.1b). These operationally bounded narratives will be discussed in later sections in relation to ideologically/market and organizationally bounded perceptions of change in Sections 7.4.1a and 7.4.2a, respectively.

More importantly the ‘embodied’ and ‘relational’ social structures (Sec. 6.3.2, cf. also Scott 2001) of the latter organizationally bounded perceptions of change, have underpinned interviewees’ ability to legitimize and reproduce their institutional interests in, and to sustain their influence over the process of industry-regional transformation. Overall, both ideologically/market and organizationally bounded perceptions of change will become evident in the following systematic examination of interviewees’ narratives of change (Tbl. 7.2) before a concluding discussion of this chapter in Section 7.5.

7.4.1 ‘Change’ Narratives: ‘Evolutionary Change’ and ‘Business as Usual’

‘Embodied’ and ‘relational’ social structures of self-regulatory spaces of interactivity have been implicit in interviewees’ ideologically/market bounded perceptions of change, which have been evidenced in their change narratives of ‘evolutionary change’ and ‘constant innovation’, and ‘business as usual’. The following discussion of select Individual MDS maps has helped to elucidate the links between interviewees’ knowledge of industry-regional transformation and these bounded perceptions of change.

The following two change narratives offer an effective transition from the earlier discussion of APICCAPS/CTCP’s perception of the concomitant delocalization/divestment

and consequential firm closures, and industry expansion and technological innovation as part and parcel of an overall process of 'natural evolution' of industry transformation. APICCAPS/CTCP have claimed the 'exit' scenario for avoiding firm closure is 'constant innovation' (see Sec. 6.3.1), such as incorporating some degree of necessary risk into business plans, and embracing new technologies and materials. But there are limitations to this ideologically founded position. The least of which are cost and time related factors of launching fashion brands, for instance (Sec. 6.3.1b). The dynamics of 'price' [for comparable footwear products] underpins a set of externally/contingent relations that challenge the rhetorical aims of 'constant innovation' (Secs. 6.3 and 6.3.1a). Industry firms' communication of their market bounded concerns with 'constant innovation', notwithstanding their recognition of the importance of 'innovation', is not unfounded. That is, these market bounded perceptions of change suggest that there maintains some reproduction of 'business as usual', of industry activity that has had to remain unchanged.

The remainder of this section now will examine each of the abovementioned change narratives through the lens of select MDS maps in Section 7.4.1a, before continuing this discussion on 'embodied' and 'relational' social structures of self-regulatory spaces of interactivity in Section 7.4.2 on organizationally bounded perceptions of change.

7.4.1a Ideologically and Market Bounded of Perceptions

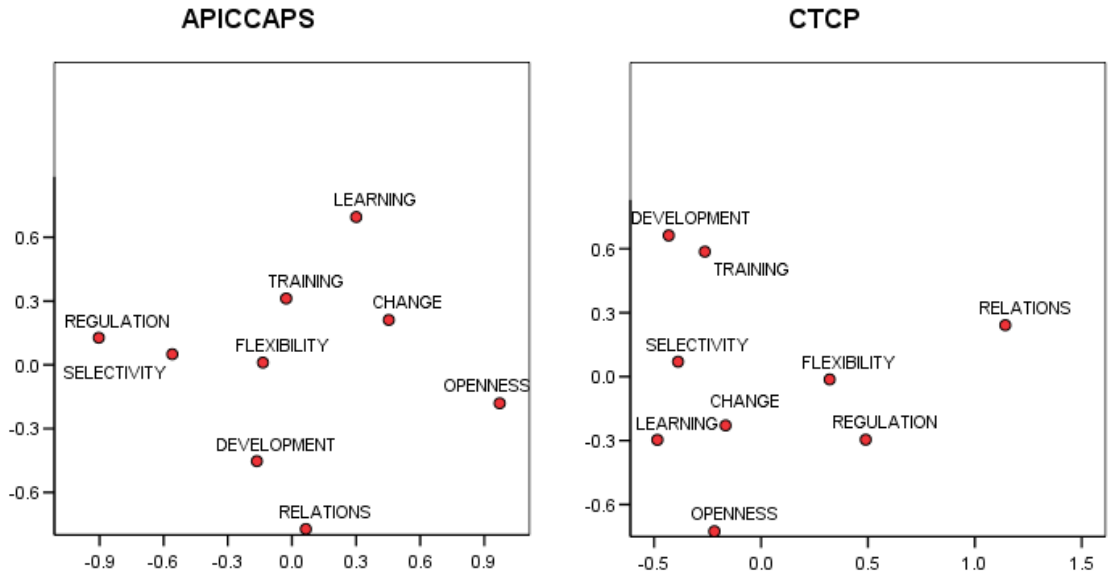
Interviewees' ideologically/market bounded perceptions of change have been evidenced in the following Individual and Group MDS maps of APICCAPS/CTCP and all interviewee firms, respectively. The Individual MDS maps of APICCAPS and CTCP perceptions of change are distinctly different despite the two organizations' highly coordinated activity (Fig. 7.7, see also Sec. 7.3.1b for discussion). This has been expected with the MDS questionnaire because individual opinions do not necessarily reflect the institutional complementarity they represent.[154] The Group MDS map of all interviewee firms (Fig. 7.8) has provided the closest approximation of all individual interviewee perceptions of change, offering a more compelling counterweight to the MDS maps of APICCAPS and CTCP; Individual MDS maps of interview firms have been separately considered in the complementary subsequent section on organizationally bounded perceptions of change (Sec. 7.4.2a, Figs. 7.9a and 7.9b).

The next two figures support the ideologically/market bounded perceptions of industry transformation or interviewee narratives of 'evolutionary change' and 'business as usual', respectively (cf. Figs. 7.7 and 7.8). The task representative spaces of agent interactivity or

[154] All interviewees were asked to express their individual points of view as representatives of their work places; that is all interviewees' points of view were influenced through their experience of the footwear industry whilst exercising their responsibilities to the organizations that they represented. Only SOICAL, who worked several years in production at an MNC in the region before undertaking her administrative role at the union, was exceptional.

spheres of influence become apparent in each of these two narratives as industry leaders' push for 'constant innovation' encounters market-related limitations intrinsic to everyday footwear industry practices in the region or 'business as usual'.

Figure 7.7 'Individual MDS' Map Results: APICCAPS and CTCP



Source: Author

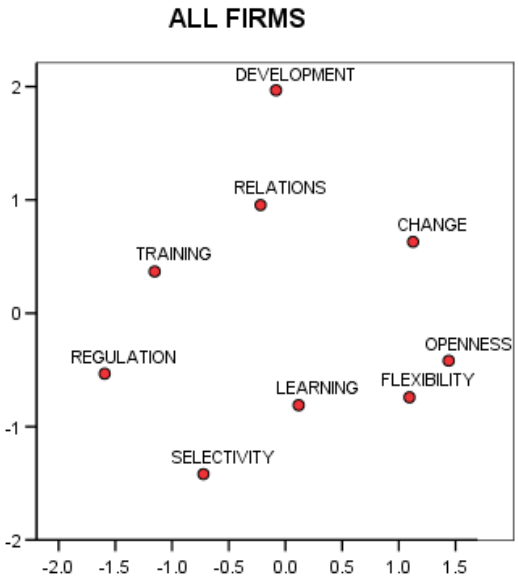
These ideological and market oriented standpoints can be explored immediately through an appreciation of the institutionally aligned reasoning of change by APICCAPS and CTCP (Fig. 7.7), and the much less explicit output from interviewee firms (Fig. 7.8). The push for 'constant innovation', which has been rigorously advocated by APICCAPS and CTCP, is evident in the close proximity between the MDS 'statements' of CHANGE and LEARNING. Both APICCAPS and CTCP have maintained differing perceptions of change that can be attributed to their respective partnerships or institutional complementarity; nevertheless despite their highly coordinated operations, both organizations are administered autonomously.

For instance the abovementioned institutional arrangements between APICCAPS and FESETE are evidenced in APICCAPS' reasoning of change, which is distinctly different from that of CTCP. Whereas APICCAPS closely has associated uneven development and unemployment (DEVELOPMENT) with collective bargaining agreements, CTCP has associated it with technical training deficit (TRAINING). And whereas APICCAPS has identified with the positive contribution of TRAINING toward better working conditions and flexibility (FLEXIBILITY), CTCP has found its provision misappropriated and lacking. The distinct differences in the reasoning of change and its associated factors are operationally bounded.

These differing perceptions apparently reflect those areas where APICCAPS and CTCP have had a strategic role in legitimizing their *interests* in, and/or sustaining their *influence* over

the process of industrial transformation and institutional change. That is APICCAPS' role in the industry labour relations with FESETE, and CTCP's role in the modernization of industry practices through innovation transfer and technical training. APICCAPS' assertion that labour union demands have been unfounded, apparently has forced it to discount any contribution of collective bargaining agreements to better working conditions and flexibility. And the institutional incompatibility between the CTCP and CFPIC training programmes has forced CTCP to claim a lack of ability to address immediate industry needs in the region.

Figure 7.8 Group MDS Map Result: ALL FIRMS



Source: Author

The above Group MDS map of interviewee firms reasoning of change does not recognize any institutional influence through industry labour relations or training. In fact, the MDS 'statement' of CHANGE in Figure 7.8 is not strongly related with any particular statement or group of statements. Instead better working conditions and flexibility has been strongly associated with a more open industry (OPENNESS) and 'learning' (LEARNING) to the right of the map, whereas the statements of direct institutional influence are located to the left. This output clearly suggests that a greater emphasis has been attributed to non-institutional factors such as market 'price' and other market bounded perceptions of change.

Together both figures offer unique insights into the apparent links between interviewees' reasoning of change and the practice of their knowledge of industry transformation. In other words whereas APICCAPS/CTCP inadvertently secure their institutional influence over the process of industry transformation, the interviewee firms discount this influence in favour of factors such as market 'price'. Once again, therefore, the representative spaces of agent interactivity or spheres of influence become apparent in each of the above two change narratives as APICCAPS/CTCP's ideologically-driven push for 'constant innovation'

encounters interviewee firms' market-related limitations intrinsic to everyday footwear industry practices in the region or 'business as usual'.

The following section will expand on the above 'embodied' and 'relational' social structures with a new set of change narratives. The Individual MDS maps of interviewee firms, below, will begin to elucidate links between firms' organizationally bounded perceptions of change and the practice of their knowledge of footwear industry transformation – as suggested in their change narratives of 'risk of self' and 'mentalité'.

7.4.2 'Change' Narratives. 'Risk of Self' *and* 'Mentalité'

The challenge of altering industry firms' 'mentalité' according to industry demands for innovative design-intensive production practices and training often accompanies risk-taking as well as risk-averse behaviours. Both of these behavioural forms contain an element of 'risk'. In the latter, for instance, an unwillingness to consider changes to existing business practices ('business as usual') possesses an element of associated risk to firm performance or 'competitiveness'. Thus the 'risk of self' encapsulates either an individual willingness to act on change or an unwillingness to recognize the need for change. In both cases there is an element of self-imposed 'risk' or 'risk of self'.

An in-depth analysis of these industry firm behaviours, however, lies outside the scope of this investigation. Nevertheless it has observed interviewee firms' reasoning of the abovementioned industry demand for 'continuous innovation'. On the one hand industry firms have taken to the challenge of 'continuous innovation' with an acute sense of measured risk management, whilst others on the other hand have allowed their increased market vulnerability to remain largely unchecked; the latter consequently have subjected themselves to the increased risk of firm closure or reduced performance. Therefore this section will maintain that whether industry uncertainty has been managed by industry firms to accommodate the potential for new market opportunities ('constant innovation'), or whether it has been consigned to individual on-going industry practices ('business as usual') remains a matter of their organizationally bounded perceptions of change.

This observation has been suggested in interviewee references to industry firms' 'mentalité' or willingness and/or ability to undergo necessary change (P. Dantas 2006, per. comm., 08 February, see also Sec. 6.3.2a for full discussion). Though as mentioned in the opening lines to this section, and as discussed at considerable length in Chapter 4 (see Secs. 4.1 and 4.3.1b), these circumstances constitute external/contingent ('intransitive') and internal/necessary social relations ('transitive') that must be distinguished and taken into account separately (Danermark *et al.* 1997). On the one hand, consider for instance the abovementioned external/contingent factors associated with 'price', fashion brands and

industry image on the one hand (Sec. 6.3.1), and on the other the internal/necessary conditions for change that have been embodied in the social structures of interviewees' functionally differentiated spheres of interactivity (Sec. 6.3.2).

The following discussion of Individual MDS maps of interviewee firms' reasoning of industry change suggests distinct organizationally bounded perceptions; that is, differing perceptions of change that coincide with interviewee firms' industry production norms and past experiences. More importantly, the MDS exercise will reveal particular cases of shared reasoning of industry change between interviewee firms, and other previously discussed interviewee organizations. This supports the above claims on task representative spaces of agent interactivity or spheres of influence, suggesting that industry businesses' and institutions' change perceptions are not mutually exclusive. In other words the self-regulatory and representative spaces of industry business and socio-institutional relations are mutually constitutive, having a reciprocal effect on perceptions of change by industry and regional agents.

7.4.2a Organizationally Bounded Perceptions

The following discussion of Individual MDS maps has included all firms previously interviewed for this thesis investigation. Each of the interviewee firms for this study was selected on the basis of unique characteristics (see Chapter 4 for detailed discussion). However, these characteristics were largely based on the degree of funding each firm received through State and European Structural Funds (ERDF and FSE) during the period from 1986 to 2006 (see Tbl. 4.3). All selected firms are medium-sized operations (50-99 employees) and produce within Portugal for European markets, occasionally accommodating out-production needs through the subcontracting of local firms. The combined value of State and European Structural Funds directly paid out to these selected firms was just over 2.5 million Euros.

'*Eject Shoes*' – *J. Sampaio e Irmão, Lda.* (hereafter FIRM 1) was established in 1981. It is a medium-sized firm with 97 employees, having recently launched its *Eject* brand – its second and latest brand following the more traditional casual footwear line '*Calafe*'. FIRM 1 maintains close ties with CTCP and has regularly participated in the EPF-hosted fashion footwear show *Descalço*, and the APICCAPS-coordinated MOCAP footwear trade shows until they were discontinued in 2004. FIRM 1 received 898k over three [European] Community Support Framework (CSF) funding periods from 1988-2006.

'*Savana*' – *Savana Calcados, Lda*. (hereafter FIRM 2) was established in 1988, producing largely for the children's footwear market in Europe. With 80 employees, FIRM 2 is currently preparing to launch two additional product labels. The firm's executive partner began his early career in footwear production, followed by a period as lead instructor for CFPIC. FIRM 2 was

funded 129k over two CSF funding periods (CSF I/II – 1988-1999). But the delayed State delivery of project funding in the latter of the two periods nearly jeopardized all business operations.

'*Conforto*' *Industria e Comercio de Calçado, Lda.* (hereafter FIRM 3) is a national production arm of *ACO, Fabrica de Calçado* in Vila Nova de Famalicão[155]. It was established in the late 1990s following the Portuguese government's attempt to regionally redistribute national economic activity to outlying rural areas or less-developed regions.[156] The funding programme *PAEDIR* (1998-99), which funded the regional policy, was introduced at the end of the CSF II funding period (1995-99) in 1998 and discontinued in 2000. FIRM 3 closed all operations in 2005 in accordance with Government funding directives, which required recipients to maintain manufacturing operations for a pre-determined period; *Conforto* received a total of 137k in European Structural Funds (CSF I/II – 1988-1999).

Lastly, '*Basilius*' – *Basilius Empresa Produtora, Lda.* (hereafter FIRM 4) has been noted as the quintessential firm of the Portuguese footwear industry. Unfortunately, despite 1.6m in EU/State funds and its exemplary achievements in technological integration between 1988 and 1999, FIRM 4 decided to close in 2005. As expected the news surprised industry leaders, which, to say the least, also raised a number of research considerations for this study. FIRM 4 was a second generation family firm. It had strong relations with APICCAPS, largely as a result of the founding owner's time as president of the trade association. FIRM 4 also was regularly consulted by CTCP and APICCAPS for insights on industry needs. This relationship flourished into a number of pilot projects, to which it was invited to participate, resulting in the relatively large amount of funding. FIRM 4 eventually closed after great effort to outsource production in Brazil and India.

Upon examining the 'Individual MDS' maps of all interviewee firms, there is little that immediately can be said for noticeable patterns of reasoning of change. This was expected because of the individuality of industry firm experiences; however, it is worth noting that the interviewee firms for this thesis investigation have differing perceptions of change despite their overwhelmingly positive treatment or reasoning of industry transformation. More importantly, whilst interviewee firms share a common understanding of industry transformation[157], the practice of their knowledge of its associated factors has influenced their individual reasoning change. This link between interviewee firms' reasoning of industry change and the practice of their knowledge of changing demands will be examined more

[155] ACO is an international production group with manufacturing branches in Portugal and abroad. It was established in 1973 and currently employs 500+ in Portugal alone. Other large national outfits include FLYLONDON and AEROSOLES.

[156] Refer to discussion in Chapter 5, Sec 5.3.1 for discussion of national regional development imbalances and how it has been addressed through policy in 5.3.2.

[157] See Annex Tbl. A4.2 for individually written industry characterizations.

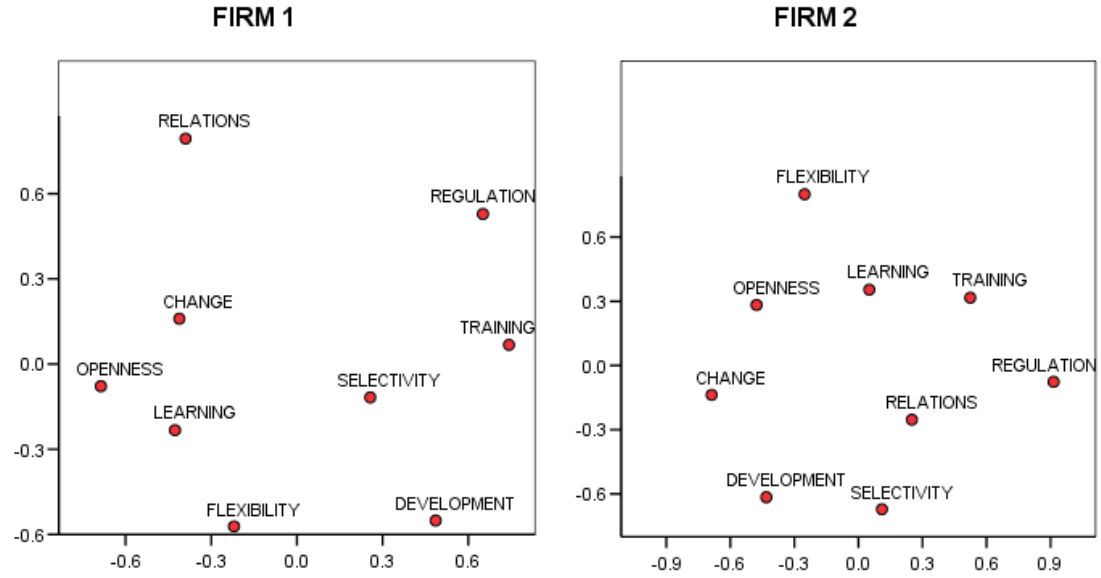
closely in the following passages; again, that is with particular regard to the central research question for this investigation.

For instance, successful collaborations between FIRM 1 and CTCP are apparently reflected in the industry firm's association of greater 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING) and change (CHANGE, cf. Figures 7.5 and 7.9a). Though, despite its relatively large quantity of EU/State funding, FIRM 1 has suggested that financial incentives systems and its associated policies (SELECTIVITY) have not had a marked affect on industry-regional transformation (cf. Figs. 7.8 and 7.9a) not to mention its view of misappropriated training in the region (TRAINING). This supports previously discussed industry concerns with training provision, which both CTCP and FIRM 1 have suggested through personal communications (see Sec. 6.3.2b.3 for full discussion, including FIRM 1 views). On the whole, nevertheless, FIRM 1 has suggested a positive reasoning of change.

FIRM 2, on the contrary, has suggested a negative reasoning of change (CHANGE) and financial support to the region (SELECTIVITY), which has been deduced from the statements' relative proximity to unemployment and uneven business development (DEVELOPMENT) (Fig. 7.9a). FIRM 2 is among the firms with the least amount of past financial support from EU/State funds; and it underwent the unfortunate experience of delayed funding, which left the firm heavily in debt. This clearly is reflected in the firms' views of public financial support. But its view of the shortcomings of public funding has not deterred it from launching two fashion brands. Finally the relatively positive reasoning of technical training deficit (TRAINING) contradicts those concerns suggested by FIRM 1 and CTCP, and the other remaining interviewee firms. As noted earlier, the interviewee at FIRM 2 worked with CFPIC before starting up the firm; this clearly has influenced how the provision of technical training through greater 'functional proximity' and 'learning' between industry institutions and businesses (LEARNING) has been reasoned, and what overall importance has been attributed to industry-led training under collective bargaining agreements (RELATIONS)[158].

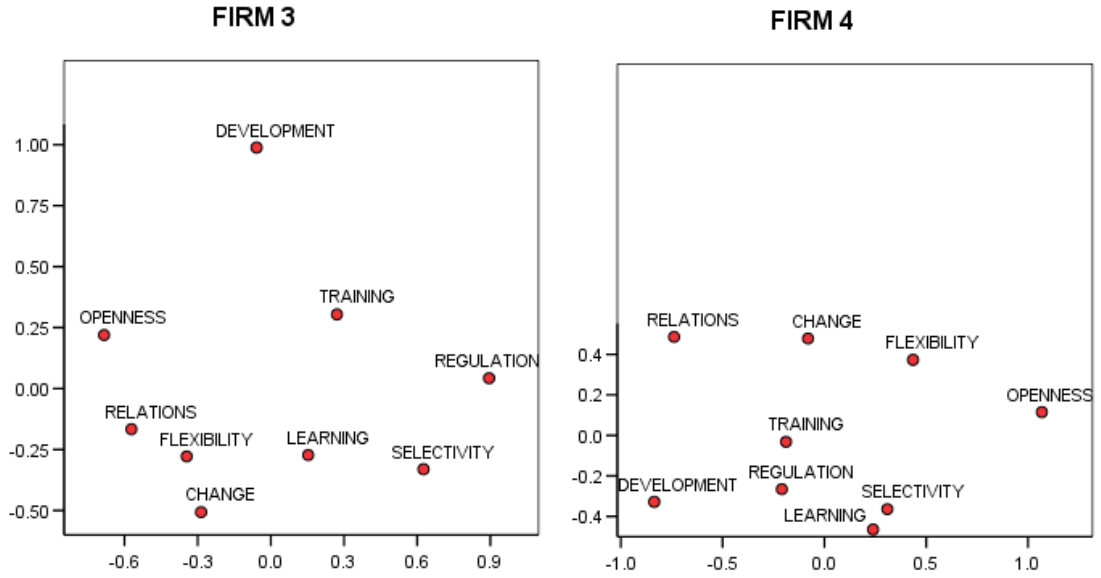
[158] cf., differing treatments of MDS statements LEARNING/TRAINING by FIRM 1 and FIRM 2; see Sec. 6.3.2b.1 for FIRM 2 communications.

Figure 7.9a 'Individual MDS' Map Results: FIRM 1 and FIRM2



Source: Author

Figure 7.9b 'Individual MDS' Map Results: FIRM3 and FIRM4



Source: Author

The above two maps provide another set of insightful suggestions (Fig. 7.9b). In the first instance, both interviewees have a relatively positive reasoning of change. However unlike FIRM 1 and FIRM 2, FIRMS 3 and 4 have associated change (CHANGE) more closely with better working conditions and flexibility (FLEXBILITY) than with a more open industry (OPENNESS). Furthermore neither the positive reasoning of change by FIRM 2, nor those of FIRMS 3 and 4 have been associated with technical training (TRAINING). Again this may well suggest that the self-regulatory and representative spaces of industry business and socio-

institutional relations are mutually constitutive, having a reciprocal effect on perceptions of change by industry and regional agents.

These outcomes can be largely understood through an appreciation of the interviewees' backgrounds (see Appendix Tbl. A4.2). The interviewee at FIRM 3 began work in micro-enterprise firms of the textiles industry and subsequently progressed to small and medium-size footwear enterprises before joining *ACO, Fabrica de Calçado* as branch plant manager for '*Conforto*' *Industria e Comercio de Calçado, Lda.* Its concern with unrelenting low wages and the industry's lack of investment in training has led it to suggest that many firms are locked into a 'vicious cycle' of business practice or 'business as usual'. FIRM 4 does not have high expectations of the future of the footwear industry; 'we [the industry is] are doomed', it has asserted (see Annex Tbl. 4.2). This foresight clearly has influenced the firm's decision to shut down operations. Nevertheless, FIRM 4 has maintained a relatively positive reasoning of change in the industry. The interviewee was a second generation partner at the firm, having inherited the business from his father. Before joining the firm in 2000, FIRM 4 had established itself highly among industry competition. It earned the 'trust' and 'credibility' of industry leaders at APICCAPS and CTCP, amassing significant financial support through partnerships and other innovative projects. However, six years onward and FIRM 4 has not reasoned change (CHANGE) albeit positively with greater 'functional proximity' and 'learning' between industry institutions and business (LEARNING); though it closely has associated LEARNING and financial incentives systems and associated policies, which FIRM 3 similarly identifies.

Altogether the above discussion of 'Individual MDS' maps has suggested that interviewee references to firms' 'risk of self' and 'mentalité' likely constitute both external/contingent and internal/necessary social relations (Danermark *et al.* 1997). But more specifically this section has suggested these change narratives can not be fully understood if firms' organizational behaviours and other institutional activity - within the wider task representative spaces of agent interactivity or spheres of influence - are viewed as mutually exclusive.

7.5 CONCLUSION

This chapter has brought together several change narratives into an insightful discussion of the MDS results of interviewees' perceptions of change. This innovative treatment of the respondent data from semi-structured interviews has offered a systematic appraisal of interviewees' differing perceptions of change by allowing their narratives to be examined more carefully. Though, more importantly this chapter has been structured on the operational, ideological/market, and organizational bounds of interviewees' knowledge of industry-regional

transformation because they coincide with external/contingent ('intransitive') factors such as market 'price'-setting dynamics and internal/necessary ('transitive') factors such as effectively targeted industry training (cf. Chapter 6 for discussion).

Operationally bounded perceptions of change have been identified with the institutional complementarity and incompatibility of interviewees' interests across self-regulatory spaces of agent interactivity or spheres of interest over matters such as what constitutes effectively targeted training. Ideologically, market and organizationally bounded perceptions of change have been identified with apparent tensions within and across task representative spaces of agent interactivity or spheres of influence throughout the industry and region. For instance the industry cooperation sought by labour representative concerns with heightened employment insecurity in the region has been tested with the industry business representatives' push for 'continuous innovation', justifying the negative industry outcomes or 'crises' of change as a necessary and expected feature of industry restructuring or 'evolutionary change'.

The discussion of both self-regulatory and representative spaces of agent-environment interactivity, therefore, has offered a rich insight into a multi-jurisdictional space of industry-regional transformation or *juridical space*. And together both self-regulatory spheres of interest and representative spheres of influence are evidently intertwined in an interest-driven desire to influence the process of industry transformation. This particularly has been apparent in the above discussion of interviewee firms' organizationally bounded perceptions of change. Whereby, industry business and socio-institutional relations are mutually constitutive, having a reciprocal effect on perceptions of change by industry and regional agents to which this chapter turns in the final and concluding chapter of this investigation.

Chapter 8 Conceptualizing Change in a Juridical Space of Transformation

8.1 INTRODUCTION

This investigation has offered a greater appreciation for the reflexive and complex dimensions of innovation governance and political responsibility to regional development, timely positioning itself at the nexus of intensifying geo-political discourses on the efficiency and equity of territorial development in Europe. The historical development of the Portuguese footwear industry reveals that it is far from uniform (cf. Chapter 5). In fact, an historico-institutional appreciation of its associated industry-regional transformation illustrates how the industry's integration of micro family-owned business and subsistence farming into informal household economic conditions, recurrent rounds of economic depression and boom, government instability, late industrialization and domestic market liberalization, foreign direct investment and divestment, subcontracting and internationalization of production, 'Europeanization' of industrial policy, and steep technological learning curves and an ever growing appreciation for the institutionalization of innovative activity have all contributed to differing rates of associated industry transformation and regional development. It should be dually noted that the above multi-faceted consideration of the Portuguese footwear industry extends beyond the in-depth characterizations, network relations and policy practices of industry clusters (Bathelt 2008, Bathelt *et al.* 2004, Cooke and Martin 2006) – notwithstanding the discussions in this investigation of the brief exploration of cluster policies in Portugal (cf. Chapter 5). Thus any characterization of the Portuguese footwear industry under one model of industry-regional transformation would be erroneous at best.

Accordingly this investigation has explored and conceptualized the social phenomenon of change with this multi-faceted consideration of industry-regional transformation in mind. In doing so it has taken particular consideration of the knowledge-meaning attributed to shared socioeconomic circumstances by different industry and regional agents. It has especially focussed on the extent to which these social actors and their respective social systems may be co-placed in time (events) and space (interactions, communications). These social systems can consist of an organization, or policy funding networks, industry training platforms or innovation governance arrangements.

Moreover, this multi-faceted consideration has recognized that the industry's differentiated factors and economic dynamics, and the relational capacity of both industry/regional economic/non-economic actors in the process of its transformation must be process-oriented – owing the observation of change in the space of transformation to the individuals, events and institutions that have had a direct and indirect market and non-market stake in the footwear industry and surrounding region (Chajewski and Manterys 2003, Sotarauta and Bruun 2002, cf.

also Yeung 2003 on ‘process-based research’ methodology). This understanding has encouraged a conceptualization of time and space whereby time folds into and out of space through the reflexive acts of agent communication by interaction (cf. Chapters 2 and 3). Following Gren and Zierhofer the above efforts to suggest a time-space coherence has brought this investigation to a consideration of ‘space not as a quality of a distinction [a priori]’ between agent communications and interactions, but rather as the ‘*possibility*’ for such distinctions (2003:629, emphasis added). In other words, distinctions ‘are observations that constitute a difference between two sides and thereby relate these sides to each other’ (ibid 618); that is, one may conceive the space of industry-regional transformation over which social relations are stretched as ‘two sides of a distinction’ or observation (ibid: 629). In this regard an agent observation serves two simultaneous purposes: it identifies the operational sphere of the agent interactions whilst distinguishing it from other complementary or incompatible agent activity. Within this space of industry-regional transformation, agent communications and interactions can be institutionally reproduced, as well as dynamically shifting or ever-changing.

The remainder of this chapter is organized in four sections, which outline the principal contributions and policy implications of this investigation. Section 8.2 discusses the first and foremost of these contributions, which is attributed to the creative use of a mixed method or ‘adaptive theory’ approach. This adopted methodological approach has facilitated an innovative contribution to future organizational studies of industry restructuring and regional development without conflating the behavioural in the activities of organizations. It additionally makes a significant empirical contribution by incorporating 'extant' theory and data at the outset of the research to ensure that empirically-informed theoretical generation is administered throughout the research process. Section 8.3 revisits the analytical framework for this investigation and recasts it in light of the empirical outputs and analysis in previous chapters. Section 8.4 discusses the remaining two contributions of this investigation. It brings the combined input of an agent-centred ‘autopoietic’ systems orientation to the micro-behavioural study of this investigation and its macro-level concerns with multilevel institutional change. Section 8.5 offers a closing reflection on autopoiesis and cognitive spaces of agency, before closing with concluding remarks on the policy implications of the research.

8.2 CONCEPTUALIZING CHANGE: REGIONAL VOICES AND COGNITIVE SPACES OF AGENCY

Change is a *perceived* social phenomenon, which is not possible without a distinction from its counterpart of stability. In other words, the space of industry-regional transformation for the purposes of this investigation is ‘two sides of a distinction’ (Gren and Zierhofer 2003: 629)

between change and stability. This distinction can be dynamically established as a product of social actors' observation or communication of perceived changes to socioeconomic circumstances and contingencies, as well as the differing perspectives on the necessary responses to transformation outcomes (elaborated below, cf. Chapter 6 for full discussion). The following two sections outline the key aspects of the methodological contribution of this investigation, which has made a conceptualization of 'change' in the Portuguese footwear industry possible.

8.2.1 Regional Voices in a Multi-Jurisdictional Space of Transformation

The above investigation has offered a methodologically 'valid', 'reliable' and 'reflexive' (Yeung 2003) approach to the incorporation of both institutional and behavioural (cognitive-frames) dimensions in a conceptualization of the perceived phenomenon of change by industry and regional agents. On an epistemological level, an important feature of the complexity of this phenomenon lies in the appropriation of meaning to the actions of social actors (Argyris 1993). On an ontological level, industry-regional transformation is an 'intransitive' 'reality' independent of the juridico-institutional spaces within which agents' act out their interests in, or their influence over responses to perceived transformation outcomes ('transitive'). Both 'intransitive' and 'transitive' objects coincide with 'external/contingent' and 'internal/necessary' social relations, respectively, in this investigation (cf. Danermark 1997, and Chapter 4). For instance, the global market volatility of rapid changes in consumer trends and the concentration of TNC-controlled commercial markets can be understood effectively as an environment of 'external/contingent' relations (an 'intransitive' reality), simultaneously affecting a number of local, regional and national contexts within which 'internal/necessary' relations ('transitive' realities) reflect agents' differing experience or understanding of industry and regional change.

Accordingly, the above investigation has thus devised a methodologically innovative approach to the study of probable links between agent perceptions of change and the juridico-institutional structures within which they practice or work. It has offered an alternative to the postmodernist and poststructuralist teachings evident in humanist approaches, included among which are the works of symbolic interactionists, phenomenologists and ethnomethodologists, as well as grounded theorists who limit their studies to inter-subjective meanings and understandings, and eschew objectivist, socio-structural (or systems) features of the social world. The resultant work has been a mixed-method or 'adaptive-theory' approach (cf. Layder 1998, and Chapter 4) to the conceptualization of change in the Portuguese footwear industry and Norte region.

Consequently, this approach has joined secondary empirical data (cf. Chapter 5) to a qualitative study through semi-structured interviews (cf. Chapter 6) and a subsequent cognitive mapping exercise (cf. Chapter 7). It has incorporated the former as 'extant' data (ibid.), introducing the semi-structured interviews and cognitive mapping exercise at later stages of the research process. The incorporation of 'extant' data at the outset of the research fieldwork has helped to ensure theory-generation is administered *during* the research process itself. As a result this investigation has made two distinct methodological contributions to areas of related academic discussion in economic geography (cf. Chapters 2 and 3). First, it echoes similar calls for process-based methodological frameworks in the study of 'practicing new economic geographies' (Yeung 2003), which enables a 'creative and coherent deployment of different methodological practices as different moments of a research process that is sensitive to specific research questions and /or contexts' (ibid: 442). Second, it has been able to make stronger use of secondary empirical data where this element has been 'weak' by contrast to other combined research practices in new economic geography such as tracing actor networks, in-situ[159]/ethnographic study and abstraction.

More importantly, the above methodological approach to this investigation has been underpinned by a 'critical realist' philosophy (Archer *et al.* 1998, Lopez and Potter 2001). Again, as mentioned earlier, this philosophical line considers both 'intransitive' and 'transitive' aspects of an agents' perceived reality through which one can appreciate the extent to which different social actors have varying causal powers over industry and regional change. In this regard, it should be stressed that the organization (e.g. the industry firm) consists of multiple defined networks of communications and programmes (interactions, cf. Luhmann 1995 and Chapter 3), which may be co-present at any point in time. This understanding has been preferred over the flat ontology of actor-network approaches. In fact this view has been argued in favour of the actor-organization as a structure for the co-placement of multiple defined networks or systems of interactions – a 'functional structure for communications' (Gren and Zierhofer 2003: 618). This preference counters social network analysis or network-mapping exercises that tend to treat networks and actors as conduits whereby the unit-structure of analysis remains that of the 'network'. The identification of exclusionary spaces of internal industry-led networks of industry and regional actors, as well as industry representatives' powers over the mobilization of finite resources into EU-funded projects to which select firms are invited is a key contribution of the above investigation in this regard. This contribution would not be possible through studies limited to the actors in these networks (cf. Chapter 6).

Altogether, this understanding has particularly considered the philosophical standpoint that argues, in the words of Danermark *et al.* (1997), that science consists of a set of theories of the

[159] In-situ research offers a deeper understanding of the dynamics of actor-networks than empirical datasets can reveal (e.g. cultural explanations of face-to-face interactions, corporeality); it offers the advantages of 'being there'.

'world' and its dynamics; these theories are *not* 'reality' but rather concepts competing for a deeper knowledge of 'reality'. Accordingly, one may infer then that there is a 'reality' inherent to phenomena that remains independent of what one observes (e.g. uneven development; cheap labour competition), a 'reality' inherent in the phenomena of what one actually observes (e.g. industrial production in an informal or black economy) albeit predominantly unaccounted, and finally a 'reality' found in what can be empirically represented (e.g. factory closures or innovation patents). Though, paradoxically, the latter *real* 'reality' of a situation in time/space remains subject to fallibility; data on factory closures does not account for the fraudulent redirection of investment capital, or unregistered enterprises and workers (cf. Chapters 4 and 5). Moreover whilst innovation patents may suggest significant trends or path-dependent development trajectories, they neither capture the particularities of marginal innovation practices (cf. Chapter 2) *nor* the potential co-evolution of contingently realized path-dependencies across functionally differentiated spheres of agent-interactivity. The following section brings the above methodological perspective to reflect on the theory of 'juridical space', which has been developed as a product of this investigation.

8.3 JURIDICAL SPACE: MAPPING COGNITIVE SPACES OF AGENCY IN A MULTI-JURISDICTIONAL ENVIRONMENT

The study of the Portuguese footwear industry and Norte region has offered new insights into a micro-macro investigation of behavioural and institutional dimensions of industry and regional change. It has been able to join 'extant' secondary empirical data to the study and identification of actor identities and 'voices' through traditional semi-structured interviews (Chapter 6) and a cognitive mapping exercise (Chapter 7). This has been consistent with the above 'adaptive-theory' or mixed method approach (Chapter 4). In turn, the overall analytical framework for this investigation (Sec. 1.3) has been able to elucidate the probable links between the communications or storylines of different social actors, and the practice of their knowledge or experience of industry-regional transformation. It offers a time-space coherence of individual interviewees' perceptions of industry and regional change. Lastly, it expresses this coherence as the functionally differentiated and structure-determined choreographies of agent responses to transformation outcomes, including their strategic mobilization of finite resources (elaborated below, cf. also references to 'disjointed realities' and 'mentalite' in Chapter 6).

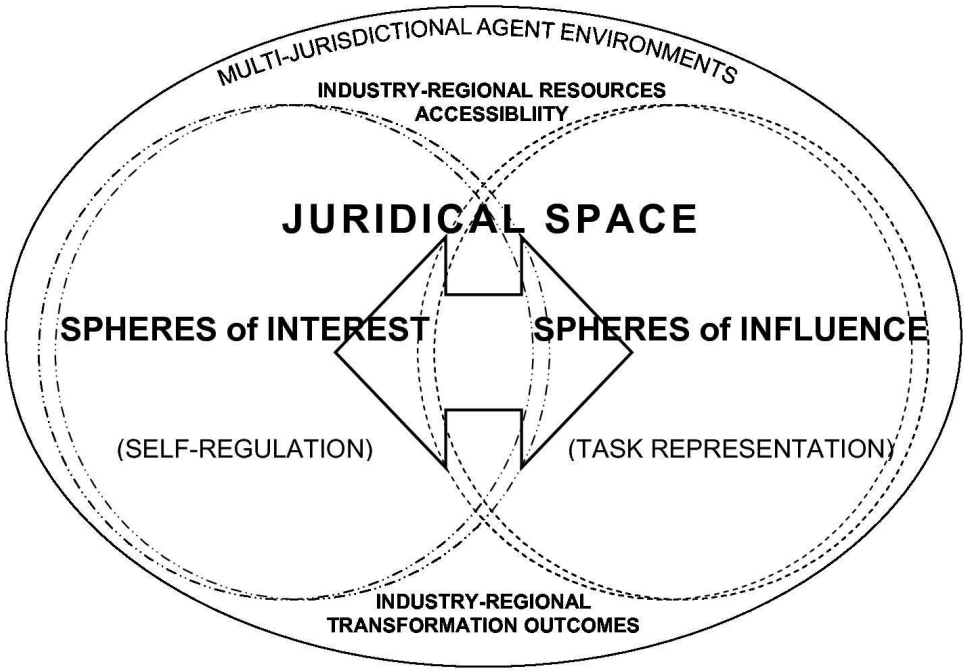
Differing perceptions of change reflect agents' *interests* in industry-related issues as well as their *influence* over industry and regional objectives and behaviour. In this regard, it has been argued in this investigation that the mutually constitutive spaces of industry and development relations have had a reciprocal effect on perceptions of change by industry and

regional agents. Likewise this investigation has stressed that agent perceptions are among the cognitive aspects of agent-environment interactivity, which permeate agency. That is, agents' mutually constitutive interests in, and their influence over industry objectives and behaviour. This has been described in previous chapter discussions as the 'self-regulation' of agents' interests in, and their strategic 'task representation' of these interests in sustaining a degree of influence over industry-regional transformation.

In turn, this investigation has suggested that agents' varied perceptions of change take on the knowledge or meanings that may inform or compete for influence over the redirection of regional, industry and business strategies. Put differently, the processes of industry-regional transformation have involved the accumulation of data and experiences over time. Consequently, the extent of agents' perceptions of such transformation processes can constitute different individual forms of knowledge (cf. Haas 2004, Rydin 2007). Additionally, these agent perceptions can be expressed through competing cognitive-frames or meanings ascribed to industry and regional change.

At the intersection of the abovementioned spheres of agent interests and influence lies what this investigation claims as '***juridical space***' (Fig. 8.1). These 'spheres of interest' and 'spheres of influence' are two distinct yet mutually constituting realms of juridico-institutional boundaries of agency (cf. Chapters 6 and 7). The former highlights agents' 'operationally' bounded organizational and self interests in change in the industry and region, whereas the latter is associated with their 'ideologically/market' and 'organizationally' bounded mobilization of finite resources in change-response activity (cf. Tables 7.1/7.2). The confluence of both spheres constitute the juridical space of agent-environment interactivity, a multi-jurisdictional environment of institutional complementarities and incompatibilities that span self-regulatory and task representative spaces of agent interaction. It is a complex, multi-level, cross-scalar realm of functionally differentiated, purpose-oriented juridico-institutional spheres of bounded agency (cf. Chapters 1 and 4 for analytical framework and research fieldwork design).

Figure 8.1 Juridical Space



Source: Author

Each of the above spheres of agent interactivity has been discussed as contingently realized and transitive features of 'industry-regional resources accessibility' (relations, training and selectivity), and simultaneously as enabling/constraining forces on the intransitive 'outcomes' of industry-regional transformation (openness, development and flexibility).[160] Yet despite the functionally differentiated nature of interviewees' activities, as expressed through their experience of change (embodied) and their inter-connections with other organizations (relational) and the clear juridico-institutional boundaries within which they operate (institutional), the extent to which these distinct spheres of agent-environment interactivity have had an influence on other spheres of organizational activity remains unclear. That is, an unclear influence on the activities of individual organizations (e.g. the firm) or the wider activities of the industry or region in which they have a stake. Though, this does not exclude the mutually constituting effects of complementary and incompatible agent interactivity on agent responses to change; for instance, the gradual incorporation of 'competitiveness' rhetoric in industry reports commissioned by national and regional labour union representatives is a case in point. Nonetheless, as Director of Innovation at CTCP, Candida Medon, modestly states: 'I am of the opinion that the industry directs us. And the world continues to evolve in its own way; we are confronted with this natural evolution every day. It is difficult to say what the influence of this was, and what the influence of that was' (2006, pers. Comm., 06 February).

[160] RELATIONS – collective bargaining agreements; TRAINING – technical training; and SELECTIVITY – State/European funding; OPENNESS – a more open industry; DEVELOPMENT – unemployment and uneven business development; and FLEXIBILITY – better working conditions and increased work flexibility (cf. Chapter 7 for full discussion, see also Fig. 7.3 and Table 7.3)

8.4 SELF-REGULATORY AND TASK REPRESENTATIVE SPACES OF AGENT-ENVIRONMENT INTERACTIVITY IN A JURIDICAL SPACE OF TRANSFORMATION

The following section elaborates the contingently realized and mutually constitutive spheres of bounded individual and organizational self interests in, and influence over the juridical space of industry-regional transformation. It outlines the remaining two contributions of this investigation, bringing a reflection on previously discussed academic literature (cf. Chapters 1, 2 and 3) to bear on the above discussion of mutually constituting spheres of organizational interest and influence. Section 8.3.1 re-examines the 'organization' as the preferred unit of analysis for this micro-behavioural study and its macro-concerns with multilevel institutional change. Section 8.3.2 extends this discussion into the contributions of ‘autopoietic’ systems-theory (Luhmann 1995, 1997, cf. also Gren and Zierhofer 2003).

8.4.1 Self-Regulatory Spheres of Interest

Self-regulatory spheres of interest are associated with the 'operationally' bounded organizational and self interests in change in the Portuguese footwear industry and Norte region. As mentioned earlier, these organizational and self interests take expression in the interviewees' observation of institutional complementarities and incompatibilities. But the complexity associated with these complementarities and incompatibilities has had to recognize the multiple stake holder interests in one organization as well as the multiple interests in the industry. As a result, this investigation has suggested the organization is the most appropriate unit of analysis. Whereby such studies should be directed at organizations and the individuals within them as ‘social units’ infused in institutionalized geographies of practice, which in turn constitutes an investigation *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations (cf. Chapters 1 and 2). This focus on organizations as the structures through which institutions are revealed takes the onus of this investigation from an understanding of ‘institutions seen as containers, structures, organizations or contextual settings’ (Amin 2001: 1241, cf. Philo and Parr 2000 and del Casino 2000 in Chapter 2) to a consideration of the varied configurations and meanings that institutions can assume (cf. ‘operational’ bounds’ in Chapter 6, Fig. 7.2). Future considerations of such juridico-institutional boundaries of agency could include further exploration of the study of ‘institutional performances’; that is ‘how such performativity influences, and [does] not simply regulate [the] economic action, and the complementarities and conflicts between different forms of institutional mobilisation, [both] scalar and nonscalar’ (ibid: 1240). Another example could involve the study of ‘institutions as potentialities’ or the instantiation of institutions, to borrow from Amin, ‘that bubble to the surface as economic action when instantiated in some way or another’, for example (2001: 1241).

It therefore should be stressed that the inter-subjective and interpretivist elements of this investigation's micro-macro study of social actors' appropriation of meaning to industry and regional change has been complemented with efforts to link individual cognitive-frames to their structure-determined spheres of agent-environment interactivity. In other words, this investigation has been able to identify causal mechanisms and processes of industry-regional transformation by exploring its links to the relational spaces of agents' recounted experiences of industry and regional change. This makes a significant contribution to recent concerns that '['relational'] ideas do not add up to a new conceptual and methodological paradigm and agenda for economic geography (Sunley 2008: 19). As Sunley further notes: 'without identifying categories, regularities, and generalizations regarding connections in economic spaces, it is difficult to see how we will ever identify and evaluate competing interpretations of causal mechanisms and processes' (ibid: 17). Though, whilst this investigation does not dispute this position, it finds that a behavioural dimension *can* remain an integral component. That is, a conceptualization of change does not a priori demand the 'eliding' of one dimension over the other. After all, one does require *institutions* to think (Douglas 1986)!

Of course, on the one hand there is something to be said for the *stability* of territorial development conditions (as opposed to a focus on 'change'), particularly in light of efforts to study evolutionary path-dependant trajectories or trends. In fact, in a contrasting view, Sunley again argues that 'in treating action and the instantiation of institutions as priorities, we should avoid eliding institutions with behaviour. Instead, it is more fruitful to see institutions as sets of durable systems of social rules and conventions that are constituted by habits and that structure social interactions' (2008: 11). This is a perfectly valid point of view given such concerns as measurability and policy impact monitoring. But then again one must be careful not to *elide* emergent practices and the particularities of marginal practices in the efforts to identify 'analytical stability' (cf. Chapter 2).

The culmination of the above views and the general understanding that agents are creative and continuously engaged in 'sense-making' (cf. Chapter 1) raises the significance of 'observations' of industry-regional transformation, and accordingly its potential to shed light on the links between agents' perceptions of change (processes and artefacts) and the everyday practice of their knowledge of it. Organizations and the cognitive-frames/consciousness of agents that occupy them are 'social units' within institutionalized geographies of practice; they are infused in institutional structures of rules, resources and concrete interactions (cf. Chapter 2). Moreover, the organization is thus not only an object constitutive of the processes of human interaction (relational) within institutionalized power-pervasive environments (institutional) but also a subject (or observer) of its own environment through a self-applied awareness (embodied) of routine acts, inefficiencies, desired norms and injustices.

Thus the above understanding has underpinned the central research objective of this investigation. It has explored agents' experience of industry-regional transformation in an

effort to elucidate the probable links between their perceptions (cognitive-frames), or their experiential knowledge of change on the one hand, and the development and practical use of their knowledge of it on the other. This objective has generally rested on the argued need for a consideration of innovation-enhancing institutional forms together with a conceptualization of industry transformation and regional development – of a need to distinguish 'innovation from mere change' (cf. Johannessen *et. al.* 2001: 22 and Chapter 2). Again with regard to the aims and objectives of this investigation, industry firms are among the best placed organizations to investigate. That is, 'firms are simultaneously the agents of change and competition and the final point of delivery of programmes provided by other agents' (Lawton Smith *et. al*. 2003: 860). In this regard an appreciation of the institutional complementarities and incompatibilities of multiple, co-placed and operationally bounded organizational and self interests in an industry organization is worthy of continued investigation. The following section will now outline the above consideration as the second constituting sphere of agent-environment interactivity in a juridical space.

8.4.2 Task Representative Spheres of Influence

Task representative spheres of influence are associated with their 'organizationally' and 'ideologically/market' bounded mobilization of finite resources (contingently realized) in response to change, and its potential consequential influence on other industry change-response activity. The ability to mobilize such resources has been contingent on differing needs for cooperation on the back of 'crises of change'. Such calls for cooperation in the industry transformation narratives of interviewees have included a recognized need for progressive change or 'evolutionary change', and the support of design-driven commercialized footwear products through 'constant innovation'. Though, industry firm narratives have been less inclined to express the same innovation/competitiveness rhetoric. Instead, interviewees have been more inclined to stress the 'market' bounded norms and routines of their business peers, of the of unchanging risk-averse practice of 'business as usual'. This has been referred by both industry firms and other industry and regional actors as a sense of 'self-imposed risk' whereby industry best practices and investment in (re)training has largely been ignored. This observation by several interviewees has claimed that this organizational behaviour is implicit in firms differing 'mentalite' or business culture.

Consider, in this regard, the particular interviewee accounts of the contribution of training to industry transformation, which have suggested that cooperative institutional arrangements have been discouraged as a result of the abovementioned 'disjointed realities' or institutional incompatibilities among training organizations and the affect this has had on organizations' willingness to collaborate for lack of '[…] similar roles, on equal footing' (cf. Chapter 6 for

discussion). This will have significant policy implications for the industry-regional coordination of State-led training policy programmes and EU-funded industry-led initiatives. Following this example one must acknowledge that whilst the organizations' operationally bounded spheres of interest, and their association with different and unequal powers and resources, which may constrain and enable particular activities, the organizational bounds of instituted norms and routines of individual firms may dissuade them from investing in training resources available to them! In other words, there is something to be said for the institutional failure that partly has been attributed to training organizations' inability and/or unwillingness to engage industry firms and overcome their crippling 'mentalité' or reluctance to invest in training – notwithstanding these training organizations' need to surpass the distinct institutionally-driven spheres of activity or 'disjointed realities' within which they operate and identify new grounds for increased coordination and collaboration (cf. also policy implications below).

Lastly one must dually recognize the institutional blindness or unwillingness of an organization, which does not allow it to acknowledge well recognized industry/regional development issues, as a result of its ideological/market bounded operations or worldviews. As Hudson (1999) argues with regard to the 'fetishization of knowledge and learning': 'Learning is by no means a guarantee of economic success. Still less is it a universal panacea to the problems of sociospatial inequality' or a 'cloak behind which some of the harsher *realities* can be hidden' (1999: 70, emphasis added, cf. also Chapter 2). This view could not be more expressly restated than in the following reaction to the social implications of industry and economic restructuring in the footwear industry and Norte region when APICCAPS' Executive Director, Alberto Jorge, states:

> [T]here are no serious social problems in the footwear industry, despite many firms having disappeared; their place was occupied by other new ones […] with existing others, in the meantime, having expanded and modernized. And this is the business fabric's capacity of auto-regeneration […]. There is no evidence […]. Where is the evidence of social problems in the footwear sector? Where are the manifestations? Where are the problems? There are none. (A. Jorge 2006, pers. comm., 09 February)

Hence, altogether there is an intransitive reality that sums up the effects of industry transformation on regional development outcomes, which agents feel 'continues to evolve in its own way' (C. Medon 2006, pers. comm., 06 February) regardless of what they choose to see or factor into their respective strategies. Then there are the transitive realities of juridico-institutionally bounded change-response activities, which interviewees observe as the 'disjointed' organizational responses to transformation outcomes. These change-response activities are structured on the meaning agents attribute to transformation outcomes as a product of their interests in, or the extent of their influence over industry and regional strategies, individual behaviour or industry-wide business culture.

8.5 AUTOPOIESIS AND COGNITIVE SPACES OF AGENCY: CONCLUDING REMARKS AND POLICY IMPLICATIONS

The above Luhmannian autopoietic systems-theory orientation has facilitated an examination of the conflicts, contradictions and dissention among several actors with a stake in the Portuguese footwear industry and Norte region. It has offered a highly useful perspective on the study of co-present and parallel policy programmes and initiatives across industry organizations without having to resort to a systems unit of analysis. It further has facilitated efforts to expose matters of inclusion and exclusion within and across multiple co-placed systems of stakeholder interests in, and influence over an industry organization like the 'firm'.

Thus, whilst the Carlsson *et al*. (2002) concern with agent interaction is principally interested in the performance and evolution of *a* 'system', Luhmann's autopoietic systems-theory perspective enables an examination of the multiple co-placed stakeholder systems in an organization – as the site of multiple defined networks of communications and interactions (Chapter 3). In this respect the above investigation has argued that the organization is the most appropriate unit of analysis. As social units infused with institutionalized geographies of practice, organizations are structures for functionally differentiated spheres of agent interactivity (cf. Gren and Zierhofer 2003, Luhmann 1995, 1997). This agent-centred approach (Clark et al., 2002) has enabled distinctions to be made between an organization's defined systems of interactions and their environment of other complementary and incompatible interactivity. This perspective can offer particularly useful insights into the future study of fragmentation and conflict *within* 'sectoral' or 'innovation' systems. In other words, the above organizational analysis has illustrated how select firms can play a strategic role within a sectoral system of innovation as a constituting component of that system's performance and evolution, as well as become the site for other co-placed systems of complimentary or incompatible stakeholder interests such as workforce training.

Lastly, the above agent-centred explanation has been sought by rejecting a priori understandings of a system and its mutually constitutive components in favour of a 'total history' of change that owes the process of industry transformation to any number of individuals, events and institutions (Le Goff 1978, Le Goff and Nora 1985); that is, a multi-faceted consideration of the industry's differentiated factors and economic dynamics, and the relational capacity of both industry/regional economic/non-economic actors. This agent-centred explanation has enabled an exploration into the extent to which different industry and regional actors, and their respective stakeholder systems, may be co-placed in the time (events) and space (interactions, communications) of industry-regional transformation. It has offered insights into the knowledge-meaning agents have attributed to industry and regional change. It has illustrated what this understanding can reveal about the links between individual agents' past experiences of industry-regional transformation. And it has offered a greater

understanding of agents' juridico-institutionally bounded ability to mobilize finite resources in their interest, or to have an influence over the necessary responses to industry-regional outcomes within and across systems of stakeholder-driven policy programmes and initiatives. The remaining section offers some additional closing remarks on the policy implications for this research investigation.

8.5.1 Policy Implications

The Portuguese footwear industry and Norte region have provided a useful and relevant case study for the above research focus. It contains attributes of the key extant dimensions of change identified at the outset of this research investigation, for which the analytical framework has been well placed to interrogate and elucidate key issues and processes under investigation (cf. Chapter 1). In this respect the investigation has sought to articulate actors' meanings, activities and motivations as it relates to their perceptions of industry-regional change ('lifeworld'), and its reciprocal relations with culture, institutions, power, and reproduced practices and social relations ('systems'). It has set out to conceptualize change through the complementary and differing perceptions of industry and regional actors' experiences or narratives, linking these perceptions or individual-organizational cognitive frames to their structure-determined spheres of agent-environment interactivity.

It has sought to comprehend how the social phenomenon of change can be deduced from agent interactivity throughout the course of Portuguese footwear industry reorganization since the mid 1980s. It concludes that the process of industry transformation has involved periods of firm creation and closure, and restructuring, which reflect fluxes in foreign direct investment and the globalization of footwear/fashion industry production and commercialization. Furthermore, it has illustrated how the effects of European Structural Funds, the introduction of new technologies and innovation-enhancing initiatives, and the industry training and negotiated flexibilization of work have made an uneven albeit indeterminate contribution to the footwear industry and the Norte region.

These changes have accompanied processes of institutionalization and the subsequent institutional reorganization of industry support (cf. Chapter 5). Though, like the process of industry firms' adaptation to consumer market changes, the cases of institutional adaptation and resistance to change has been varied and uneven. These cases have been manifest in a patchwork of industry support services across a number of functionally differentiated or juridico-institutional boundaries of agency. This agent-environment interactivity has included organizational responses to footwear industry training needs, improved work practices, and product and organizational innovation. In light of the above consideration of multiple co-placed systems of stakeholder interests, the research has examined several narratives of

industry and regional change in the Portuguese footwear industry and Norte region. It has brought together storylines from a range of actors, including labour unions, State-led regional training organizations, business elites, as well as innovation-promoting institutional arrangements between the State, universities and industry organizations. More importantly, it offers fresh insights into the self-regulatory and representative demarcations of interviewees' bounded perceptions of change (cf. Chapter 7), and its links to the juridico-institutional structures within which they practice.

The contributions of this investigation confirm that industry and regional agents have made use of discursive and material communication of change such as industry reports for the purposes of legitimizing their institutional interests in, and/or sustaining their organizational influence over industry and business strategies, individual behaviour and industry-wide business culture. Therefore it has been argued that agent narratives of industry and regional change cannot be fully understood if firms' organizational activities and those of other actors are viewed as mutually exclusive. For instance, the industry-regional cooperation sought by labour union representatives' concerns with heightened employment insecurity in the region has been challenged by industry business representatives' push for 'continuous innovation' among business enterprise. In both cases, each of the actors employ 'crises' narratives of change as a means for advancing or legitimizing their stakeholder interests in the firm, industry or region.

These contributions raise a couple of policy implications. The first of these implications concerns efforts to integrate social considerations with competitiveness. The efforts to bring the dual objectives of economic and social cohesion together only serve to intensify tensions over the legitimacy and accountability of industrial and innovation policy, as well as the 'credibility' of its varied actors and organizations. This has been particularly relevant in the above case of Portuguese footwear industry transformation. The meandering national pursuit of science and technology / innovation (S&T/I) policy has departed from previously more articulate policy concerns over regional development issues. This policy split has been most apparent in the 'divide' between science and technology policies on the one hand, and enterprise and industrial policies on the other. To encourage any form of 'policy integration' is practically futile in this regard. The drivers and barriers to this 'Holy Grail' of policy administration can involve any combination of political, economic/financial, operational, behavioural/cultural factors (Stead and Meijers 2009). Secondly, the historical periods of political destabilization and reorganization of State powers, concomitant with the inter-related (re)institutionalization and restructuring of the Portuguese footwear industry, requires an appreciation of the 'kind of historicised insitutionalism [that] is markedly different from an understanding of institutions as trans-historical laws or structures with transcendental powers' (Amin, 2001: 1240). In this respect, the above investigation has taken a preference for organizations as 'social units' infused in institutionalized geographies of practice instead –

which in turn constitutes an investigation *of* institutions without discounting the role of individual action and powers that are often conflated with the activities of organizations. This view of organizations can offer insights into the complex co-evolution of multiple path dependant trajectories of Portuguese footwear industry transformation. This will be particularly relevant to future research on the policy implications of conflicts and tensions between agents' organized activities within an industry sector. A particular consideration of these organized activities of stakeholder systems would include State-led policy programmes and externally funded initiatives, such as industry training, which are co-placed within organizations such as the industry firm.

The ability to accommodate these conflicts and tensions between agent responses to industry transformation outcomes in relation to their efficiency and equity claims, on the back of on-going and past events, can generate useful insights into the governance gaps between industry and regional development. Moreover, these insights can offer a greater appreciation for the reflexive and complex institutional dimensions of industry planning and development, and the political responsibility to socially just forms of regional development.

Annex

Table A4.1 MDS Questionnaire Sample

Institution, organization or firm:
Name:
Post:
Previous posts with institutions,
organizations or firms:
Number of years with the industry:

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
1. A more 'open' industry 2. Selectivity of financial incentives systems and their associated policies **1 2 3 4 5 6 7 8 9**
9.*'Change'* 3. State regulation and influence **1 2 3 4 5 6 7 8 9**
8. Technical training deficit 4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses **1 2 3 4 5 6 7 8 9**
7. Better work conditions and increased work flexibility 5. Collective bargaining agreements **1 2 3 4 5 6 7 8 9**
6. Unemployment and uneven business development 1. A more 'open' industry **1 2 3 4 5 6 7 8 9**
3. State regulation and influence 2. Selectivity of financial incentives systems and their associated policies **1 2 3 4 5 6 7 8 9**
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses 9.*'Change'* **1 2 3 4 5 6 7 8 9**
5. Collective bargaining agreements 8. Technical training deficit **1 2 3 4 5 6 7 8 9**
6. Unemployment and uneven business development 7. Melhores condicoes de emprego and flexibilizacao do trabalho **1 2 3 4 5 6 7 8 9**
1. A more 'open' industry 3. State regulation and influence **1 2 3 4 5 6 7 8 9**
2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses **1 2 3 4 5 6 7 8 9**
9.*'Change'* 5. Collective bargaining agreements **1 2 3 4 5 6 7 8 9**
8. Technical training deficit

6. Unemployment and uneven business development

1 2 3 4 5 6 7 8 9

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more ‘open’ industry

1 2 3 4 5 6 7 8 9

4. Greater ‘functional proximity’ and ‘learning’ between industry sector institutions and businesses
3. State regulation and influence

1 2 3 4 5 6 7 8 9

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1 2 3 4 5 6 7 8 9

6. Unemployment and uneven business development
9.‘*Change*’

1 2 3 4 5 6 7 8 9

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1 2 3 4 5 6 7 8 9

1. A more ‘open’ industry
4. Greater ‘functional proximity’ and ‘learning’ between industry sector institutions and businesses

1 2 3 4 5 6 7 8 9

3. State regulation and influence
5. Collective bargaining agreements

1 2 3 4 5 6 7 8 9

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1 2 3 4 5 6 7 8 9

9.‘*Change*’
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1 2 3 4 5 6 7 8 9

8. Technical training deficit
1. A more ‘open’ industry

1 2 3 4 5 6 7 8 9

5. Collective bargaining agreements
4. Greater ‘functional proximity’ and ‘learning’ between industry sector institutions and businesses

1 2 3 4 5 6 7 8 9

6. Unemployment and uneven business development 3. State regulation and influence								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
7. Melhores condicoes de emprego and flexibilizacao do trabalho 2. Selectivity of financial incentives systems and their associated policies								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
8. Technical training deficit 9.*'Change'*								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. A more 'open' industry 5. Collective bargaining agreements								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses 6. Unemployment and uneven business development								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
3. State regulation and influence 7. Melhores condicoes de emprego and flexibilizacao do trabalho								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2. Selectivity of financial incentives systems and their associated policies 8. Technical training deficit								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
9.*'Change'* 1. A more 'open' industry								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
5. Collective bargaining agreements 6. Unemployment and uneven business development								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses 7. Melhores condicoes de emprego and flexibilizacao do trabalho								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
3. State regulation and influence 8. Technical training deficit								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2. Selectivity of financial incentives systems and their associated policies 9.*'Change'*								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A5.1aCSF-approved enterprise, and science, technology and innovation support programmes in Portugal (1988-2006)

CSF	ministry	operational programme (P.O)	sub-programmes	programme emphasis							
				Firm modernization	Infrastucture provision	Training	Cooperation / networking	Commercialization / internationalization	NSST (explicit)	Micro / SME focus (explicit)	Local and reg. dev. (explicit)
I (1988-93)	JNICT[a]	P.O. S&T	CIENCIA (89-93)		■				■		
	MIE	P.O. Economy	PEDIP I (88-92)	■							
		Comm. Initiative	STRIDE (91-93)	■							■
		Comm. Initiative	PNICIAP/SIBR (86-93)								■
		Comm. Initiative	STAR								
		Comm. Initiative	PRISMA								
		Comm. Initiative	TELEMATIQUE								
II (1994-1999)	MCT	P.O. S&T	PRAXIS XXI (94-99)[b]		■						■
	ME	P.O. Economy	PEDIP II (94-99)	■							
	ME	P.O. Economy	PAEDIR (PEDIP II) - 1998-99					■	■		■
	MEPAT	P.O. PPDR		■						■	
	MEPAT	P.O. PPDR	RIME I / II	■						■	
		Comm. Initiative	RETEX								
		Comm. Initiative	ICPME	■						■	

Source: Author

Table A5.1b CSF-approved enterprise, and science, technology and innovation support programmes in Portugal (1988-2006)

CSF	ministry	operational programme (P.O)	sub-programmes	programme emphasis							
				Firm modernization	Infrastructure provision	Training	Cooperation / networking	Commercialization / internationalization	NSST (explicit)	Micro / SME focus (explicit)	Local and reg. dev. (explicit)
III (2000-2006)	MEI	P.O. Economy	POE (00-03)								
	MEI	P.O. Economy	PRIME (03-06)								
			Capital de risco								
			Garantia Mutua							■	
			SICE					■		■	
			SIME	■						■	
			SIPIE	■				■		■	
			SIUPI					■			
			SIME-Innovation	■							
			SIED	■						■	
			IDEA			■			■		
			Tech. infrastructures[c]		■				■		
			Demtech				■				
			Assoc. infrastructures				■				
			Business Partnerships				■				
			Professional training				■				
			Quadros			■					
			Internationalization					■			
			NEST			■					
			NITEC		■						
		P.O. Economy	New PRIME (05/06)[d]								
			InnovJovem								
	MCTES	P.O. S&I[e]	POSI		■	■	■		■	■	■
	PCM (UMIC)	P.O. Knowledge Society[f]	POS_C		■	■	■				■

S

Source: Author

Notes

a. JNICT established in 1972, after two years of government lobbying, began the campaign for a national science and technology policy in Portugal; the institution was responsible for collecting and disseminating data pertinent to the sector for two decades. It was decommissioned when the Ministry of Science and Technology was established in 1995 and data collection and dissemination responsibility transferred to the Science and Technology Observatory.

b. PRAXIS XXI (1994-1999) is continuation of CIENCIA.

c. Tech Infrastructures, the sub-programme of P.O. Economia (POE), is a continuation of the CIENCIA, STRIDE and PRAXIS XXI, but articulated with an emphasis on quality via IPQ.

d. New PRIME (2005-2006) was the name given to the revised POE/PRIME by the Socrates Government, which introduced additional funding areas and revised other existing programme measures.

e. POCI substituted POCTI.

f. POS_C substituted POSI; POS_C was preceded by PROINOV as a resolution of the council of ministers but was never put into practice, which was launched in 2000 by the Socialist Democrat Guterres Government. It placed strong emphasis on the development of clusters (i.e., an explicit cluster policy), which has given way to high-tech and emerging knowledge-based industries under UMIC.

Table A7.1a MDS Questionnaire Results. APPICAPS

Institution, organization or firm:	**APPICAPS**
Name:	Alberto Jorge
Post:	Executive Director
Previous posts with institutions, organizations or firms:	Economic Analyst, APICCAPS
Number of years with the industry:	27

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Increased process of change' (not necessarily in increased quality); market niches on the increase; upward progression on the value chain with increases in own-label production (not expressive, but nevertheless a future tendency contingent on investments in commercialization, rapid response production, and work flexibility) and sub-contracting of components industry.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1b MDS Questionnaire Results. CTCP

Institution, organization or firm:	**CTCP**
Name:	Candida Medon
Post:	Director for Innovation
Previous posts with institutions, organizations or firms:	?
Number of years with the industry:	20

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Change reflected in the past, present and future. In the past, the footwear industry was in permanent change – between the 74-84 firms established, grew and modernized – during the beginning of the 1990s they moved from large to small series production, and diversified in light of new consumer demands. During this time, the technology centre is established, providing for new competencies and new quality control criteria. Current/future change (?): industry is still in a process of constant dynamic change; it continues to respond to new demands; it has sought its own path (s); remains a sought after competitive industry i.e. a break with 'physical change' in 1995, becoming all the more evident in 'intangible change': modernization and new production modes, industrial certification, qualification and integration, increased value-added, and innovation, design and own-brands.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1c MDS Questionnaire Results. CFPIC

Institution, organization or firm:	**CFPIC**
Name:	Eduardo Costa
Post:	Training Director (2003-Present)
Previous posts with institutions, organizations or firms:	Instituto de Emprego e Formacao Profissional (IEFP) (1992-2003)
Number of years with the industry:	3 years; Mr. Costa has worked extensively on employment and training studies of the *Norte* region

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Business delocalization/divestment, fashion, establishment of owner commercial distribution networks, change over from large to small series production – all of this associated with the globalization of commerce

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

9.*'Change'*
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

Table A7.1d MDS Questionnaire Results. EPF

Institution, organization or firm:	**EPF**
Name:	Paula Dantas
Post:	Education Director
Previous posts with institutions, organizations or firms:	?
Number of years with the industry:	15

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Change in the general 'mentality' of the sector, and toward training; the past five years have experienced a great deal of change – before, many firms were subcontracted – today, they are seeking new market niches through the pursuit of novel tendencies, design/creativity and product quality. This illustrates that the delocalization of some part of the production has been necessary.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1e MDS Questionnaire Results. FESETE

Institution, organization or firm:	**FESETE**
Name:	Manuel Freitas
Post:	Administrative Director
Previous posts with institutions, organizations or firms:	Textiles manufacturing, 1960s – 15 years
Number of years with the industry:	20 (via FESETE)

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
From the abandonment (delocalization) of multi-nationals to the greater attention to product (quality), investment in own-brand manufacturing and greater incorporation of firms in global value chains, there has been a lot of unemployment – i.e. interruption of family projects/investments, many small villages that let go of their rural/agricultural lifestyles to be industrial only to find that they're now neither rural nor industrial because the people have migrated e.g. parishes of the Minho region at Povoa de Lanhoso, Pte. de Lima, Felgueiras, Castelo de Paiva and Vila Nova de Gaia; there is an apparent tension: the tendency is not that the sector is unwell but rather that it is doing well (6-10 to date); however, this has often been challenged by disproportionate media attention on unemployment / factory closures often attributed to poor investment, overdependence on subcontracted work; unlawful environmental impact and the lack of legally mandated industry certification, and a general concern for production output as opposed to equal attention to product design /commercialization.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1f MDS Questionnaire Results. SOICAL

Institution, organization or firm:	**SOICAL**
Name:	Fernanda Moreira
Post:	Administrative Director
Previous posts with institutions, organizations or firms:	German firm Rhode (1 year). Then employed by Danish firm, ECCO (22 years) until she was made redundant in 2006; currently working with SOCIAL since 2004 on volunteer basis
Number of years with the industry:	29

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Re-organization of production modes of work and workforce training in the process of industry modernization (in terms of technological upgrading of mechanized production).

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1g MDS Questionnaire Results. ICEP

Institution, organization or firm:	**ICEP**
Name:	Elza Neto
Post:	Director, Fashion Filier
Previous posts with institutions, organizations or firms:	Lecturer, ICEP (Paris office – 20 years; responsible for FDI attraction; of which 5 years spent on footwear industry)
Number of years with the industry:	3 with footwear industry; 1 year with fashion industry, combined textiles, clothing and footwear sectors (Porto)

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
People with new competencies, a more maximized management approach resulting in more successful strategic decisions.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1h MDS Questionnaire Results. CM SMF-GAE

Institution, organization or firm:	**CM SMF-GAE**
Name:	Alexandra Bastos
Post:	Director
Previous posts with institutions, organizations or firms:	?
Number of years with the industry:	?

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
When agents adopt their practices to the realization of market needs; for example, when a firm is unable to meet promised product output, it seeks the support of other firms in partnership; it seeks other agents for institutional support; seeks the commercialization of its product once it is put on the market.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

Table A7.1i MDS Questionnaire Results. FIRM 1

Institution, organization or firm:	**FIRM 1**
Name:	Joao Barbosa
Post:	Administrative Director
Previous posts with institutions, organizations or firms:	Knitwear industry – administration
Number of years with the industry:	15

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
The move from large to small series production and the adjustment of the production process (training, technological adaptation, polyvalent and flexible work methods) necessary to meet the new consumer demands. A shift from mass production to increased product differentiation

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

6. Unemployment and uneven business development
9.*'Change'*

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1j MDS Questionnaire Results. FIRM 2

Institution, organization or firm:	**FIRM 2**
Name:	Jorge Fernandes
Post:	Partner
Previous posts with institutions, organizations or firms:	Metallurgy, CFPIC [training]
Number of years with the industry:	17 (with firm)

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
4-5 weeks worth of production orders is held with huge uncertainty; there is not much comfort in this; there is a constant need to develop and create new products in order to meet consumer demands – 3X, 4X, 5X more than in the past, requiring much more rapid product output than in the past.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*

5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

8. Technical training deficit

6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

7. Melhores condicoes de emprego and flexibilizacao do trabalho

1. A more 'open' industry

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements

2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development

9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho

8. Technical training deficit

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

1. A more 'open' industry

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence

5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies

6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

9.*'Change'*

7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit

1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

5. Collective bargaining agreements

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development

3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

Table A7.1k MDS Questionnaire Results. FIRM 3

Institution, organization or firm:	**FIRM 3**
Name:	Rui Grenha
Post:	Branch plant manager
Previous posts with institutions, organizations or firms:	Textiles industry
Number of years with the industry:	13

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
Golden age (epoca alta) 20-30 years ago. [change] it is not very significant (?) – the salaries remain very low; many firms are locked into a vicious cycle; they did not evolve e.g. firms will not invest in training; they need to be accompanied at various levels (simultaneously?): technological upgrades, training, marketing and commercialization.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
6. Unemployment and uneven business development

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
1. A more 'open' industry

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
9.*'Change'*

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
5. Collective bargaining agreements

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
7. Melhores condicoes de emprego and flexibilizacao do trabalho

X	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

5. Collective bargaining agreements
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

Table A7.1l MDS Questionnaire Results. FIRM 4

Institution, organization or firm:	**FIRM 4**
Name:	Nuno Frederico de Oliveira
Post:	Sales
Previous posts with institutions, organizations or firms:	Father president of APICCAPS; takes on family business after university studies
Number of years with the industry:	6

Definition of *'Change'*: brief characterization of *'Change'* in the footwear sector:
A profound change in the production of footwear in PT which was initially centred on mass production much like the large volume production in Asia today. The footwear industry of 5 to 10 years ago will cease to exist. New brands are difficult to launch. Where these labels exist, they only make up a small percentage of the firm's total production output, which will require firms to close, delocalize or downsize and restructure; we are doomed – as England and France 20 to 30 years ago. This becomes a question of economies of scale: for example, machines are expensive and to get your return on that investment, a minimum level of production output is require

ed of that machine – hence some form of mass production, which goes against the widely held notions of necessary adjustments to small series production.

1. A more 'open' industry
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

9.*'Change'*
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Better work conditions and increased work flexibility
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

6. Unemployment and uneven business development
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

3. State regulation and influence
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
9.*'Change'*

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

5. Collective bargaining agreements
8. Technical training deficit

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

6. Unemployment and uneven business development
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

1. A more 'open' industry
3. State regulation and influence

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

2. Selectivity of financial incentives systems and their associated policies
4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*

5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

8. Technical training deficit

6. Unemployment and uneven business development

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho

1. A more 'open' industry

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

3. State regulation and influence

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

5. Collective bargaining agreements

2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development

9.*'Change'*

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho

8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

3. State regulation and influence

5. Collective bargaining agreements

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies

6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

9.*'Change'*

7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

8. Technical training deficit

1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

5. Collective bargaining agreements

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses

1	**2**	**3**	**4**	**5**	**6**	**7**	**X**	**9**

6. Unemployment and uneven business development

3. State regulation and influence

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

7. Melhores condicoes de emprego and flexibilizacao do trabalho
2. Selectivity of financial incentives systems and their associated policies

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

8. Technical training deficit
9.*'Change'*

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

1. A more 'open' industry
5. Collective bargaining agreements

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**X**	**6**	**7**	**8**	**9**

3. State regulation and influence
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**X**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
8. Technical training deficit

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

9.*'Change'*
1. A more 'open' industry

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**

5. Collective bargaining agreements
6. Unemployment and uneven business development

1	**2**	**3**	**4**	**5**	**X**	**7**	**8**	**9**

4. Greater 'functional proximity' and 'learning' between industry sector institutions and businesses
7. Melhores condicoes de emprego and flexibilizacao do trabalho

1	**2**	**3**	**4**	**5**	**6**	**X**	**8**	**9**

3. State regulation and influence
8. Technical training deficit

1	**X**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

2. Selectivity of financial incentives systems and their associated policies
9.*'Change'*

1	**2**	**X**	**4**	**5**	**6**	**7**	**8**	**9**

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